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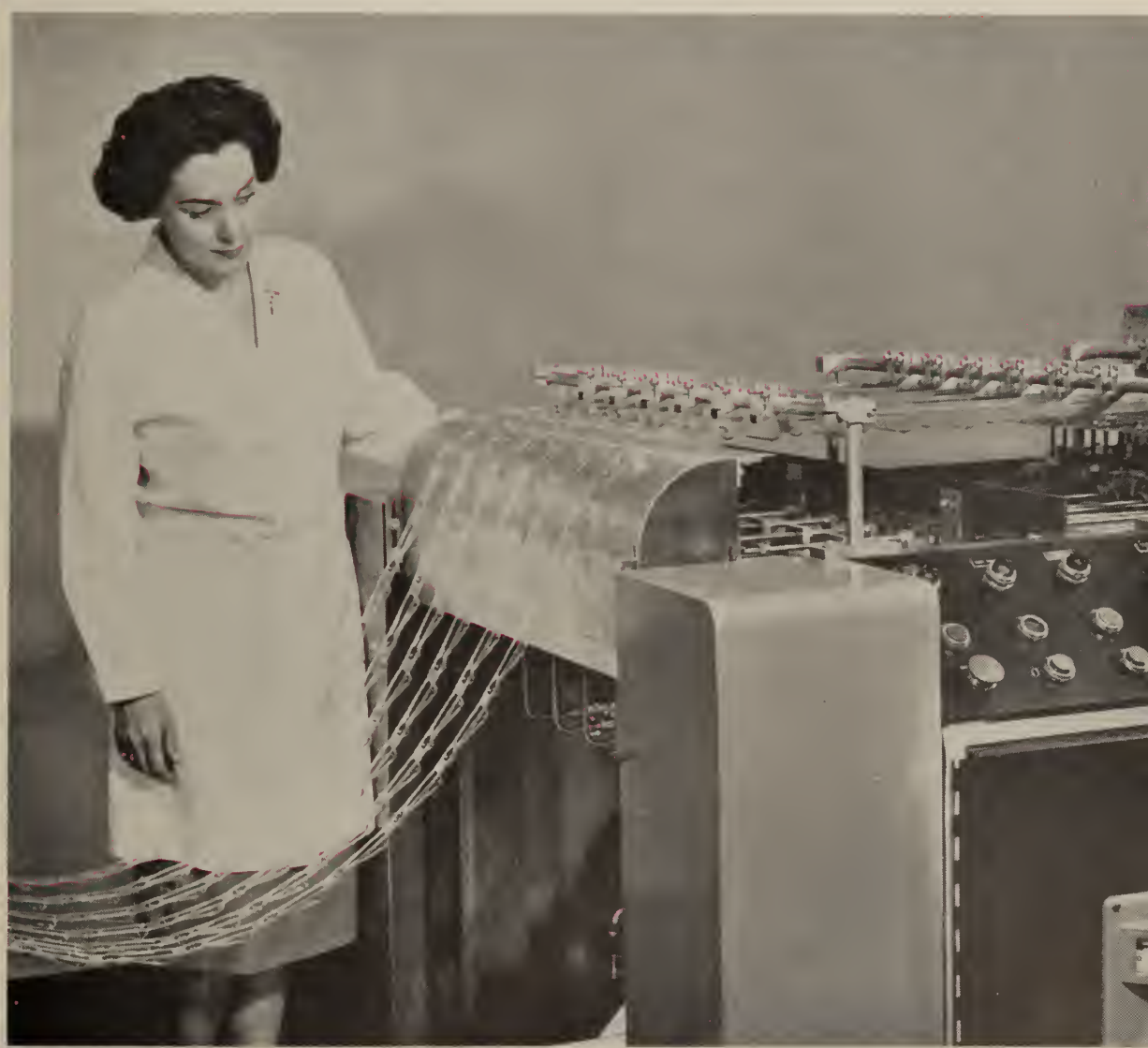

The TECHNOCRAT

SEPTEMBER, 1960

Editorial

In the Name of Security

Our political parties are again in the process of trying to whip up enthusiasm in the voters of our country. The 'hoop-la' being generated is appealing to the lowest instincts of the mass mind of a ten year old mentality. As usual the promises are for an increase in all the good things of life without the necessity of paying for them. The truly basic problems of the technological age in which we live are side-tracked or soft-pedalled as though they did not exist or were of small concern.

But the people are apathetic. No great indignation has been expressed over the steam roller methods used to gain the nominations. Nor do they appear to see anything out of the way in which the highest offices have been apportioned to the faithful stooges who helped them attain those nominations. For the voters it is an old story whose constant repetition has made it lose its punch. After all, it's a cut and dried affair about which they have little to say, so why worry? Their more immediate worries are whether their jobs are secure, or can they stretch this week's pay to cover all the payments they have to make. Much more important to them is which team will win the pennant, which compact car to buy, what television commedian is most popular. These are really questions of national import.

Who should be so naive as to worry about the increased use of automation in our production? Or the growing role of the unemployed? The vast store of surplus agricultural products? The tremendous waste of our irreplaceable natural resources in the name of defense? The growing problem of medical care for our aged? The skyrocketing debt and its attendant cost of servicing? The pollution of our air and waters? The destruction of our topsoil and forests? Our failure to provide the best of education for all the youth of our country. The growing distaste of foreign peoples for our country. The lack of a definite foreign policy? The increasing danger of war fomented by insistence on foisting an out-moded price system on other nations? The list could be continued ad infinitum. They all come about because they were all directly or indirectly caused by one thing. That was the application of science to the means of production. The cure for all of these and many more than have been enumerated lies in the same procedure. The application of science to the social order.

This proposal should be welcomed by all thinking people, for science is a method, and as such can be used and applied by anyone. It does not require its user to have a formal education or a degree from a university. The rules are very simple. Observe, record, check. Observe, record, check. From a close agreement of a great number of observations of the same phenomena the next most probable state of any given system can be predicted.

Due to the complexity of modern life it is no wonder that the bulk of our people are confused and have fallen into apathetic ways and have no interest beyond day to day living. There is one segment of our society, however, to which this excuse does not apply. Those men and women who have had training in the sciences can no longer

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The Misplaced Persons

The disciples of the world of values are out of place in the world of physical affairs, yet they control society.

Much has been said and written about 'the forgotten man,' 'the displaced person,' and the 'maladjusted individual.' But such discussions all deal with the minutiae of society. A greater and more fundamental social problem is that of the Misplaced Persons. Individually, the people to whom we refer may be well-adjusted and satisfied in their positions — like a tapeworm in the belly of a dog — but their 'host,' the society, may feel the pains and debility of a morbid infestation because of them.

The Misplaced Persons claim for themselves the highest social ratings. They are the Best People, the Nobility, the social Elite, the Gentlemen. In their conceit and deceit, they claim all of the good things of life for themselves, yet they contribute nothing useful to the society, except perchance a few droppings in the nature of crumbs from their loot. They look down with contempt on the lesser members of the society. This is all possible of being because of the incidental intrusion of a certain concept into the thinking of early mankind. This was the concept of values. This is a synthetic concoction which has no relevancy to things in the physical world; but it has come to dominate and mismanage the whole of human society. Its disciples are out of place in the world of physical affairs, yet they 'control' society. They are our Misplaced Persons.

TWO FACETS TO SOCIETY

In human society, there are two major cultural concepts, and these are in mortal conflict. They are incompatible and irreconcilable. They are able to exist side by side only under the most strained circumstances — in a state of 'cold war,' so to speak. On the one side is the Culture of Values; on the other is the Culture of Function. The men on the side of the Culture of Values have the utmost contempt for men of Function. They refer to them vituperously as 'atheistic materialists,' as though that constituted the utmost in profanation.

The numbers in the two camps are unequal, with by far the greater proportion on the side of the Culture of Values. Evidently there is something fascinating about the vagueness and chanciness of values, as well as the lack of knowledge and skill demanded in the contemplation of them, that attracts the participation of the larger numbers. The Misplaced Persons find their natural milieu in the World of Values; for, there, they can cover up their incompetence with pretense and bluster — and none can discern the difference.

On the side of Function, however, resides the strength and the skill that enters into the procedures essential to living, of both the individual and the society. It is the Culture that provides the food, the textiles, the shelters, as well as services such as transportation and communication. It is the Culture which builds and operates the physical aspects of our society. The man of Values may protest that 'one does not live by bread alone'; yet, in spite of all his faith in hocus-pocus, he makes no effort to live without bread. At the showdown, it is the man of Function who builds and services the structures on which the man of Values places his values.

The schism between the two Cultures is not as simple and precise as we might choose. People are not clearly on one side or the other. Most of them operate as 'split personalities,' favoring one side part of the time or in certain areas, then, reversing sides at other times or in other areas. Often the two Cultures are being patronized at the same

time; as, for example, when the automobile mechanic is inspired by one side of his Culture to do a good repair job at the same time he is impelled by the other side of his Culture to do a cheap, shoddy job and bilk the customer for all the traffic will bear — Function versus Values.

Men of Function have always been despised by men of Values. Functional employments, in ancient times, were the employments of the most despised slaves. A 'mechanic' was at the nadir of social status. Even 'engineers' were usually slaves. The highest social rewards went to the non-functional persons, those engaged in government, military command, priestcraft, commerce, and the cultural arts.

Ever since, education and training, as well as social attitudes, have emphasized Values rather than Function. The study and teaching of science and the technical 'arts' were protested against and postponed as long as possible by the institutions of 'higher' learning; then, when accepted, were treated as something sordid and corrupt, alas, necessary.

MEN OF FUNCTION DESPISED BUT INDISPENSABLE

Wars have been waged by men of Values for Value considerations. But it was recognized at an early date that the materials of warfare required the knowledge, skill, and endeavor of the men of function — the technical men. As these despised persons applied themselves to the problems, they designed larger, more complex, or more refined instruments of offense and defense; and their place in the social order became more significant. Hence, the skilled maker of arms and fortifications was elevated in the social scheme to a place only a little below that of the skilled brewer and distiller of intoxicating beverages. But this applied only if he did not introduce too many innovations; for, the inventer of new techniques and implements usually perished from neglect or abuse. Traditional Values must be preserved!

Eventually, it was the demands of technological warfare, as much as anything else, that raised the status of technical training in the universities almost to a par with politics and business. Now, at last, the cry has gone out for 'engineers,' meaning people trained in the knowledge and use of electronics, rockets, propellents, explosives, and thermonuclear devices and materials. The technical functions of military offense and defense have now become almost respectable — weird and deplorable necessities in preserving and enhancing the Values of the Free World — in the eyes of the guardians of Values. Still, the 'technocrats,' as the functional men are sometimes called by rhetoricians, are not fully trusted. They deal with things that are closer akin to 'atheistic materialism' than to moral philosophy; hence, it is feared, they may learn things that do not jibe with the 'scriptures.'

Since the technical men are needed by the men of Values, they must be tolerated no matter how deplorable that may be. But, in the meantime, they must be given frequent 'security clearances' and kept under surveillance by the goon squads of the moralists. Hence, we see the sad spectacle of a Robert Oppenheimer being made to crawl under the interrogations and goadings of the Inquisitors of Values. On the other hand, a man like Linus Pauling, who refuses to crawl and whine before the Inquisition, is villified as some sort of unsavory bum by the press. (The press is almost entirely in the service of Values.)

OBJECTIVES OF FUNCTION VS. VALUES

On the whole, the men of Function are peaceable, tolerant, industrious men, seeking ways and means of advancing the welfare of the human race and doing the jobs that must be done. This attitude is diametrically at variance with the attitude of the men of Values. These latter are bellicose, intolerant and tyrannical; they want nothing more than to keep the human race in the same miserable condition of ignorance, toil, and poverty that has prevailed for thousands of years. They favor consumer advancement in economic status only if it means more sales for business. But, in general, those who would change the status quo are anathema to the men of Values. Even an Admiral Rickover, who sponsored the production of atomic submarines — formidable weapons for the arsenals of the World of Values — was treated with a certain disdain, because he dared to alter the sacred traditions of naval warfare. He became declasse along with Airforce General 'Billy' Mitchell, although both of them worked indirectly in support of Values. The 'error' was in their contributing their services through the doorway of Function rather than through the doorways of art and philosophy.

The men of Function are the ones who get things done. They are the ones who service the

social mechanism and keep it running. Without them, the Cadillacs would stall, the executive offices would become untenable, the mansions on Snob Hill would lose their shine and develop unpleasant odors, the editorial offices would find no outlet for their verbiage. The World of Values would be like a backed-up sewer without the men of Function to take care of the 'dirty work.' Yet, the men of Function are the despised stooges of the disciples of Values. They are the ones whom the multi-millionaires, running for political office, seek to woo with 'minimum wages' and 'social welfare' of a quality that they would not stoop to bestow on their pet dogs.

CONCEPT OF POWER

When the Misplaced Persons in the World of Values speak of 'power,' they do not refer to a flow of energy. Rather, they refer to 'authority' — the permission of certain parties to regulate the lives and actions of other people. This authority extends to domination of the functional processes and regulation of the men of Function. In New York City, when one speaks of the Power-House, he does not refer to the power-generating stations but to the cathedral of the cardinal. City Hall is generally regarded as a substation of the Power-House.

The men of Values know nothing of the generation of electrical power. They think of electricity merely as a source of revenue. When their hired technicians run electricity through a kilowatt-hour meter, the customer can be charged a toll on it, and this toll charge can be used to enhance the elegance of the men of Values. That is about the extent of their interest in electricity.

Wall Street is another center of 'power' in New York City and the nation. It is the clearing house for the exchange of values. From there, directives are issued which determine what functions shall operate and to what extent; yet, the men who issue the directives seldom know anything of the functional mechanisms which they dominate. Their only concern is whether or not it pays off in monetary returns.

The governments of Washington and Ottawa are made up of men of Values. They manipulate the money, regulate the morals, and dominate the liberties of the people. These men understand little of the physical processes which provide food, clothing, shelter, and services, yet they dominate those who do understand. National power to them means, not the energy output capacity of the nation, but, the capability of the nation to clobber other nations with military destructiveness, or the ability to manipulate the trade and policies of other nations through threats of reprisals and promises of favors. That is the sort of thing they have in mind, for example, when they compare the relative 'power' of the U.S.A. and the U.S.S.R.

In the coming election in the United States, one would gather from the campaign oratory that the only qualification needed for the leader of the nation is a pekinese-like audacity to 'tell Khrushchev off.' That shows how far 'off base' are those who scheme in terms of Values.

The real qualification of a national Director is the ability to understand and operate a mechanism which consumes tens of millions of kilowatts of energy. Imagine a Nixon, a Kennedy, a Johnson, or a Lodge being put in charge of a functional mechanism — a mechanism that has to be operated, not merely 'told off.'

Among the principal categories of the Misplaced Persons are: the heads of state and lesser political administrators and officeholders; the financiers, economists, and businessmen; the priests, ecclesiastics, philosophers, and moralists; military commanders; and the sundry hirelings, conscripts, and devotees of the above. Three Persons dominate the society and the social mechanism; their 'functions' are those of parasites, saprophytes, or obstructionists. Their concern is with Values, and they tolerate Function only insofar as it is necessary to sustain life and promote Values.

The financial promoters and manipulators of the Oil Industry, for example, are quite indifferent about petroleum as a useful resource. To them, it constitutes a means of enhancing values. The discovery, the production, and the processing of petroleum are lamentable handicaps on the way to achieving financial wealth; they constitute 'dirty work' that can be relegated to 'atheistic materialists' while the Misplaced Persons involve themselves in struggling to the top of the dung-heap of Values live voracious and aggressive maggots. They are in no way concerned with achieving the maximum social use out of the petroleum; all that interests them is 'get it out of the ground and sell it.' They despise measures of conserving petroleum for future use, for that delays the time when the oil is turned into items of Value. The promotion of sales becomes the field of top interest; and how the oil is used after it is sold concerns them not at all — only that it is consumed to make way for

more sales. They even resent 'reserves' being set aside for future military consumption. When the wells run dry, or the costs of discovery and production become economically unfeasible, the Oil Men are helpless; they turn their 'talents' to other fields of Value manipulation and appreciation. But the Values of the Western World have been built so much on a foundation of petroleum products that, when the oil wells run dry ,or salt water) the whole World of Values will be in real trouble.

NO COMMON GROUND FOR AGREEMENT

Major corporations are headed by Boards of Directors, which make policy decisions and manipulate the finances. Some of them are smart promoters and finaglers; the rest are obedient stooges or heavy stockholders. None of them know the technical aspects of the corporate enterprise they head; in fact, if a technologist does happen to get on the Board, he is an embarrassment to them. It was once thought advisable to have a technologist or engineer on the Board of Directors as a technical advisor and consultant; but that is no longer fashionable, for it gives other Board Members inferiority complexes. It is now deemed to be 'safer' not to have technical men in policy-making positions at all.

Corporations, headed by Boards of Directors, are much less concerned with turning out a useful and durable product than they are concerned with promoting sales and collecting profits. As a consequence, the first emphasis is on the invention of hocus-pocus to beguile the 'suckers' (consumers) to choose their company's particular product rather than some other brand name of the same kind of product. Then, after the consumer has acquired one item, the next step is to entice him to get two—two cars, two telephones, two bathrooms, two toupees. No doubt they are working on some scheme for selling you two funerals.

In the meantime, the Misplaced Persons on the corporation Boards must hold the leash on their technical lackeys to prevent them from producing something that will be 'too efficient' or 'last too long,' hence cut into the volume of sales. The Misplaced Persons are also sweating it out from fear that some other corporation, perhaps a foreign outfit, will invade the market with a superior consumer product and ruin their sales and profits. (They know how to 'handle' heretics in their own midst. See what they did to the 'Tucker Automobile.')

It is to be noted that Misplaced Persons dominate government, the Armed Forces, finance, business, and the social mores. But they do not end there.

EDUCATION IS STYMIED

The educational system, so-called, is likewise dominated and hamstrung by Misplaced Persons. The pompous stuffed-shirts in Education seldom have technical training; or, if they do, they must leave it outside the doors of the administrative offices. In the training of teachers, the emphasis is on 'how to teach,' not on teaching and training as such. There is a big distinction between the two. The 'theory' is, 'if you know how to teach, you will be able to teach anything.' Their concept of 'teaching' is anything but functional. Hence, when it comes to placing teachers, the field of their special training is given little attention by the Misplaced Persons; the selection is often made at random. So we find people who specialize in French, for example, being placed over a class in Physics.

That is the kind of decisions and policies you can expect from Misplaced Persons. Yet, these incompetents consider themselves to be Big Shots and to be deserving of the best in way of remuneration. The loyalties of those in Education are to other Misplaced Persons in politics, finance, and morals, who hold the strings that control their lives and fortunes. Let an educator even suggest a social experiment in cooperative economy, a municipal governance by technical experts, or social recognition of 'pre-marital relations,' and see how long it takes for the Misplaced Persons over him to cut short his career in Education.

Let a political aspirant suggest a national policy of peace and good-will among nations, then see how long it takes for him to get the axe. (He may advocate 'peace with honor' and that is all right; for, that implies that peace should be battled for on the 'field of honor,' which means, on further analysis, that he is advocating war.)

The practice of putting Misplaced Persons into positions of authority began, we presume, with the early stages of barbarism, when mankind began abandoning the simpler and more equitable patterns of savagery. Aggressiveness, pomposity, hocus-pocus, and acquisitiveness became the virtues of barbarian authority; and through their display certain Ones achieved the authority to reward and punish others and to collect the 'revenue.'

Functional ability was down-graded, both socially and with respect to economic rewards.

Our present society still dwells in the Age of Barbarism. The paraphernalia and rituals are more complex and more occult than at first, but the fundamental patterns still persist. Barbarism has proven to be the most efficient social pattern for the elevation of Misplaced Persons — functional incompetents — to positions of Authority.

TECHNOLOGY BETRAYS THE MEN OF VALOR

But, through science and technology, matters of technique are acquiring predominence over matters of scheming. Hence the technical people — the functional competents — are becoming more and more essential to the maintenance of the society. It is not for long, now, that they can be kept from positions of control in the social mechanism. The hocus-pocus Persons are becoming obviously more ridiculous in the eyes of the public; and that is the first step to their loss of 'power.' It happens that that superb technological device, which was developed for purposes of promoting Values, the television, is proving to be a means of exposing the people of Values for the phonies they are. A few more political conventions in the U.S.A. will bring an end to that type of nonsence, since television exposes their silliness to public view. We can predict that Congressional Committee meetings and corporation Board of Directors meetings, likewise, would quickly fold up if they were subjected to televised publicity. They can continue only so long as they are kept out of sight and an illusion of mystery and importance is maintained.

The people who understand the complex social mechanisms of today are those who build, operate, and maintain the physical equipment. The Misplaced Persons would like to flummox us with the illusion that they, themselves, are the essential people — the decision makers, the policy makers — and that the technical men are incompetent nitwits except in their narrow specialty. The tenure of the Misplaced Persons in positions of 'power' require that the public be hoaxed with that illusion. Some of the more naive of them even believe that they are intrinsically important; but the more discerning of them know that they are a bunch of phonies, through and through.

What kind of decisions do the Misplaced People make? What constitutes their policies? They all deal with Values. And their Values are mostly concerned with gypping the society and reaming the consumer in behalf of private gain for themselves. In effect, the Misplaced Persons operate as a Syndicate of Racketeers; and they try to justify their 'operations' by means of their system of Values. Of course, it is all legal and moral; for, they make, interpret, and enforce the laws and they formulate the moral codes, one code for the public and another for themselves.

A POSITIVE PROGRAM IS NECESSARY

Before the Continent of North America can experience an efficient, low-cost, beneficial program of social operations, it must relocate its Misplaced Persons to wherever they may fit into the functional system of the Continent. Many should be simply retired, due to over-age or because rehabilitation would be more troublesome than it is worth. Many can be located in places of functional responsibility — perhaps some of them in places of major responsibility — once their Value concepts are superseded by Functional concepts. A few incorrigible intransigents may have to be given 'special treatment' by the society as a matter of expediency and safety. But, in any event, the World of Values must be eliminated as a governing force in the society. Certain of its components must be extirpated completely; for example, politics, business, monetary values, clericalism, and Moral Law. Art and philosophy are of subjective rather than objective significance in a functional society; their place is that of a subordinate efflorescence. The world already has seen, through the centuries, the misery, the waste, and the frustration that can come from the pre-eminence of art and philosophy in the affairs of the social order. It has seen little people, toying with ideas and patterns, being elevated to positions of honor and responsibility — becoming glorified Misplaced Persons. And the society has suffered immeasurably because of it. Let us be done with that kind of anomaly.

What is it that gives strength and vitality to the society and, at the same time, provides subjective satisfaction to the people? The men of Values will answer with meaningless prattle about Freedom, Democracy, Human Rights, Dignity of Man, and Divine Blessings. After they are through, what does it add up to? Blood and sweat and tears for the populace; wealth and fame for the Misplaced Persons! The men of Function will answer with food, housing, clothing, transportation, communication, health, education, and opportunities for recreation

and self-expression. The emphasis will be on making a physical world that is fit to live in. After that, the individual can build up his own subjective world. The men of Values would have you dwell forever in a diseased and malformed physical world, infested and infected with Values; not so, the men of science.

The medicine-men of Values are insistent that men of science are not qualified to administer society. By 'society,' they refer to their World of Values. No scientist, devoted to the world of Function, would touch an administrative job in the World of Values with a 12-foot pole. Of course he is not qualified for such a job; but, then, the Misplaced Persons are not qualified to administer a functional society. Most scientists, as individuals, have been thoroughly indoctrinated in Value concepts, and many of them have failed to achieve an understanding that there is no compatability between Science and Values; so they strive futiley to reconcile the two. They realize that they are lost when it comes to 'understanding' politics, economics, moral philosophy, hence they acquire a tendency to default their social responsibility. It has not occured to them that such things are 'out of order' in a functional world — and so are the Misplaced Persons who do pretend to understand them. Certainly, a scientist will make a fool of himself if he attempts to hold political office, become a director of a bank, or preach sermons on the moral life. He must realize, first of all, that those things are unimportant and irrelevant in the operation of the physical world, hence, in the operation of a functional society.

The major problem of today is that of relocating the Misplaced Persons from the places where their misfunction does irreparable harm in the world and reforming social operations on the basis of Functional determinants. Scientists, technologists, and technicians must rise to their responsibility in the society and assume the role of directorship that only they can fill in any viable society.

Technocracy salutes the technical men and women of North America and sides with them in their war against the Hierarchy of Values.

—Wilton Ivie

Depression or Terror

When a leading financial columnist, on successive days, first appeared heartened that the summit failure had postponed a recession, then offered advice on how to ditch old friends as we move up the success ladder, and finally, urged us to buy two of everything, I figured a challenge was in order.

I am not attempting to boost my circulation by picking a fued with another columnist — but how cold can a person get.

Personally, I will pick a rip-roaring depression over a temporary prosperous balance of terror; good friends over status and money and only one of those items I probably don't need anyway.

Have we come to the stage in our industrial development where we must rely on war scares for prosperity? Communist leaders say so. Why must we try to prove them correct?

Is financial success so important we must shake old friends as a dog sheds fleas? Is this attitude compatible with Christianity, or with any religion, ethical philosophy or decency standards, for that matter?

Must we consumers go broke to support the industrial machine? Must we surround ourselves with twin gadgets to prove affluence. What price must we pay to keep busy?

Some joker remarked recently that it has become popular to take the side of the consumer against that of pressure groups and commercial forces. Maybe so, but it is a lot less rewarding financially. Consumers don't wine and dine their champions.

To be sure, the famous lady did admit the views expressed were a mite cynical but her tone definitely was that of, "There's a lot of good in a little evil we must be practical.

Practical we are. And when the history books are written, few authors will accuse mid-century Americans of letting sentimentality obstruct their enlightened self interest.

Is it any wonder leaders of both political parties, no matter how altruistic their goals, must resort to devious, ambiguous platitudes? Americans seem to get embarrassed when abstract morality is discussed. (Continued on page 26)

Technocracy and Morality

All of the sciences have always declared themselves to be devoted to the betterment of mankind. This idea of service to humanity has been a strong factor in drawing many of the world's best minds into these fields. The members of these professions, whether they be physicists, biologists, or engineers, have always drawn satisfaction from the knowledge that their labors might help to create a better posterity. Therefore, it becomes quite difficult for the conscientious technical man to face up to the fact that much of the recent work in the sciences has been on weapons designed for mass destruction and extermination. Further, he must make the disturbing confession that science has given these weapons to men who are quite willing to use them. Science has developed power that can destroy the earth and has turned that power over to politicians and generals who do not understand the power itself or the proper use of it. This would be a terrible moral burden for any group to bear. It is something worse than this for a group devoted to the betterment of mankind.

It is to the credit of many scientists that they realize the dangers of nuclear power from the very beginning and issued eloquent pleas for the banning of atomic weapons. But these pleas were without effect, and this represents the major failure of science. It failed to exercise the control over its creation that only it was capable of exercising. Science let this vital function of regulation pass into the hands of men who did not know what they had and as a result of this all of the world is now prepared to launch itself, at a moment's notice, into atomic war. All three major powers have declared that it is their intention to use atomic weapons in any future world war. The leaders of the world make these rash declarations in the face of warnings that an atomic war could mean the end of civilization. Even the most optimistic confess that such a war would mean the deaths of many millions of civilians.

Admittedly, the political powers have made some attempt to relieve this intolerable situation. They sent their scientists to Geneva to talk the matter over. These scientists agreed that it was possible to stop atom bomb testing, but they could do no more than this for lack of authority. Their governments could not agree on any plan growing out of the Geneva conference or out of any other conference. The men in the top rank of leadership were more concerned with preserving their national egos than they were with controlling nuclear power. We must confess that all efforts toward disarmament have failed. The world faces a crisis that has not been resolved and that shows no concrete signs of being resolved.

This crisis was produced by science. The blame does not rest on any individual but on science itself which spawned such a creature that it could not hold in rein. This happened because science occupied a position in the structure of society from which it could not exert any control. The hierarchy of power was such that atomic weapons had to fall into political and military hands.

It is evident that some change of the position of science within society is necessary. To leave matters as they stand is to sanction the production of more weapons of mass extermination. This is morally and ethically indefensible.

It is not feasible to shunt science completely out of society even though this does represent a solution to the problem. It is clear that man will not give up his Salk vaccine, his jet airliners, and his television sets in order to purge himself of the atomic bomb that came with them. The idea of any return to a simple agrarian or pastoral society is simply not practicable.

It is a change in the other direction that is necessary. A technocracy must arise if we are to continue to advance. Our society is already so heavily based on technology that it cannot now do without it. The world is no longer composed of men; it is now made up of man and his machines. This is a basic change and one of tremendous implications. This makes it foolish to try to govern this new society in the same way that we governed the old. A new quality of leadership is required, one which understands not only man but the tools he uses as well. Man is unleashing forces so powerful that he dwarfs himself. This goes far beyond nuclear power. It involves machines that think and is even beginning to touch on the secrets of life

itself. These forces can only be controlled by those who understand them. They must not be placed in the hands of men who are only politicians.

It is time that science reappraised its position. It must ask itself why, after having raised man to his highest standard of living, it thrust him onto the precipice of destruction. All scientists must realize that they have a heavy moral obligation to remove mankind from his valley of the shadow of death which they have carved from the elements. It is their duty to fight actively for a technocracy. They must endeavor to gain this right to control what they produce, this right to govern their fellowman and his machines. The scientists of this world can no longer sit in their isolated towers and dispense new tools to a physically and intellectually distant society. They must move out into the world and become a fuller part of it. They must assume positions of responsibility and leadership in their communities. They must energetically promote a rational approach to local, national, and international affairs. Some of them will have to give up their profession in order to more actively support the drive toward a technocracy. All of these things they must do, for this is a moral responsibility that they cannot shirk if they hope to retain their integrity and stand upright among their fellow men.

—Terrence W. Faulkner
University of Arkansas

(The above article is a reprint, with permission of the editor, of a prize-winning essay appearing in 'THE BENT of Tau Beta Pi,' publication of the engineering honor society. 51(2):24. *April* 1960. *The author, Terrence W. Faulkner, graduated from the University of Arkansas, Little Rock, last June with a degree in engineering.)*

There Ought to be a Law

Dear Senator:

I see where they are making the 1961 models of automobiles already and 1961 is still months away. I think this is unfair to the people who have 1960 cars. Last fall, I bought a 1960 car and everybody admired it because it was one of the first of that model to come out. Now it is already commonplace and nobody notices it very much; and, when they come out with the 1961 models, my car will be out of date. I can't afford a new one again this year; besides, my car is still running all right. In fact, I have just about gotten the bugs worked out of it so it doesn't give me so much trouble as it did when it was new. So it is all right as a car, but it will make me look old-fashioned when the new models come out.

Now, here is what you can do to help out with this problem. You can pass a law that would make the car manufacturers turn out a standard engine and frame, so that you would not have to buy a whole new car each year, but you could just buy a new body to go on the frame of the old car. It is the body which gets out of date, not the engine or the frame. So, if you could just take out a few bolts and lift the body off the car and put a new one on it, the car would look new but it wouldn't be nearly so expensive. If your body is in good condition, it could be sold to somebody else with a still older car who wanted to make it look more up-to-date; so it wouldn't be a total loss.

People judge your importance by the kind of automobile you drive. So if you can have a new-looking car every year, it will be worth the few hundred dollars that the new body would cost just to be considered important. I enjoyed the way people looked at me last year with my new car; but I dread what they will think of me this coming year when they see me driving an 'old car.' Please see what you can do about it.

Sincerely yours,
BEETAL BRAYNE

RESEARCH BULLETIN

Free Public Education

From the Wall Street Journal

Rain leaking through the roofs. Spring breezes blowing through busted classroom windows. Teachers dismissed; others quitting. New construction halted. Bus purchases canceled.

These are the outward signs of a deepening financial crisis gripping the 114 public school systems and nine state-supported colleges here in Alabama. So pinched for funds were the schools this spring that some scheduled summer closings a month earlier than usual; local officials kept the schools open in several areas by charging high school students special fees, diverting funds from such other purposes as road-building and obtaining loans from local bankers.

(Political promises notwithstanding, when Price System practices interfere, the guarantee to free public education comes a cropper.)

Interest Rates and Bank Profits

Although the Eisenhower Administration warns constantly about the "dangers of inflation" there's one rise that seems to bother the Administration very little. It's the steadily increasing cost of borrowing money. The interest rate has more than doubled during the last seven years of the Eisenhower Administration. This has not bothered the bankers, of course. They've passed the cost on to us in higher interest rates on mortgages, car payments, business loans and the like. One result has been a 50 per cent increase in the interest charges on the Federal debt — even though the debt itself has increased only 3 per cent. The reason bankers don't complain is evident. They've hit a bonanza. Bank profits during the past seven years have gone up 50 per cent. The record was reached in the recession year of 1958 when bank profits were nearly 1½ billion dollars.

The Machinist, April 28, 1960

Automation Makes More Jobs?

Hamilton Spectator, Apr. 4 — The wonders of electronics and automation are making it possible for Bell Telephone Co. of Canada to handle more calls with fewer employees.

The company, which had more than 3,330,000 telephones in service in Ontario and Quebec at the start of the year showed in its annual report for 1959 increasing business with a decreasing number of workers.

The trend began after the company reached a payroll peak of 41,363 in 1957, dropping roughly 2,000 in each of the last two years, to 39,321 in 1958 and to 37,158 in 1959.

This Announced Program Needs Action

Should scientists be responsible for their inventions and the way they are used or abused?

Scientists themselves answered last week with a resounding "yes". A special committee of the American Association for the Advancement of Science said that unless this responsibility is assumed the "Discontinuity" between scientific progress and social problems threatens to "disrupt the history of man." Specifically, the committee which included biochemist Barry Commoner, geophysicist Harrison W. Brown of Caltech and anthropologist Margaret Meade said science as a whole has a "serious and immediate responsibility" to take a stand on such issues as population control, nuclear tests, and automation. As a starter it proposed that the AAAS, which has more than a million members in its affiliated societies, report directly to the public "through all available channels" on these pressing problems.

Christian Science Monitor

(One of the major failures of science has been that it was forced to turn over to the administration of the politicians and the military, major inventions of which the politician and military minds neither understood the power nor scope but which they were willing to use, and did use.)

Another Major Problem

Los Angeles Mirror, Mar. 25 — Man is rapidly making the world such an unhealthy place to live in that a whole new approach to public health problems may be needed.

A major new division in the U. S. Public Health Service is being planned to deal with the poisoning of the air, water and food supply that has accompanied 20th century progress, Surgeon Gen. LeRoy Burney says. . . .

. . . The number of automobiles has risen in 50 years from 1,000 to 70 million. In the only city where the situation has been studied — Los Angeles — it has been found that 3,400,000 pounds of hydrocarbons are being poured into the air each day.

The United States is now holding 65 million gallons of deadly radioactive waste and by 1980 will have accumulated 65 million more gallons. It hasn't the slightest idea how to dispose of it safely and is just hanging on to it.

Where 2 million people got their drinking water from streams in 1900 and 24 million dumped sewage into them, today 100 million depend on the same streams for their water and 120 million are dumping sewage into them.

(This is a problem for science to solve. Though our political and financial leaders are subject to the same dangers and inconveniences as all the rest of us they have successfully ignored them, probably thinking they are immune.)

Cheap Credit

Here's what you pay for credit — if added to purchase price and total repaid in 12 equal monthly payments.

When they say 4 per cent per year, you pay 7.3 per cent in true annual interest. When they say 6 per cent per year, you pay 10.9 per cent; when they say 8 per cent per year, you pay 14.5 per cent; and at 10 per cent per year, you pay 18 per cent. At the rate of 1 per cent per month, you actually pay 21.5 per cent in true annual interest.

(The above is from a brochure put out by the California office of Consumer Counsel. Perhaps this will give some insight into why the large corporations would rather sell on credit than for cash.)

Strictly Business

Now look who's opposing health care for the aged: the undertakers. Representative Aime J. Forand told the House that when he introduced his bill "providing hospital and surgical services for persons eligible for old age and survivors insurance, I have learned of opposition to my bill by such groups as the AMA, the chambers of commerce and the insurance companies. I expected this, but I was surprised to receive a resolution in opposition to my bill from the Indiana Funeral Directors Association, Inc."

Saskatoon

Star-Phoenix, Mar. 16 — Quoting from a speech by Lord Hailsham, Britain's Cabinet Minister of Science, "I am solemnly convinced that either humanity must find a means of abolishing or controlling these weapons . . . or sooner or later a situation will arise, sometime, somewhere, when one will go off.

That would give rise to a political chain reaction nonetheless predictable because its causes were in the realm of politics rather than physics.

It might be 50 years hence, not 10. But my own youngest child is eight, and I would wish he lives to a ripe old age and that we may bequeath him a state of the world which would permit him to do so.

(Only over my dead body, says the Price System.)

Freedom to Vote

Trainman News — Ottawa — Some 50,000 Canadian Indians were extended the right to vote when Parliament recently amended the Election Act giving federal franchise to all of the 175,000 Indians who are of voting age.

Many Indians, however, do not want to vote. They live in reservations under treaty rights granted to them by Queen Victoria. They fear that if they have the right to vote they will have to assume all responsibilities of citizens, including the paying of income taxes. At present they do not pay them.

(When the white man gets through with his despoiling he won't be able to give the country back to the Indians.)

Hollywood Would Term This 'Collossal'

Few people have a clear picture of the vast resources that disarmament would release for the development of a world at peace. America alone is wasting resources on armaments at the rate of more than $40 billion a year — an investment in fear and anxiety which is costing us $110 million a day, $4.5 million an hour, $76,000 a minute. $1,250 a second. And that's America alone. Altogether, the nations of the world are wasting 2.5 times this much. And each nation says it must do this because the others are doing it.

This is real wealth that we are wasting. It represents productive effort that we have been expending each year for more than a decade. It is wealth that is ready for constructive use whenever the world decides to get together in peace instead of preparing to commit suicide.

Perhaps the best way to visualize this wasted wealth is to compare is with the comparatively low cost of peace time capital improvements that permanently improve the human condition. The great irrigation and power projects built around Boulder Dam cost originally about $200 million. That's about what we are spending on defense every two days! Last Year, the great St. Lawrence Seaway was opened; it brings ocean-borne shipping to the Great Lakes. It cost $500 million to build. Less than one week's expenditures on armaments would have covered the cost of both Boulder Dam and the St. Lawrence Seaway!

We could erect a new $1 million hospital in every county in the United States for less than the cost of one defense month. We could have a $10 billion highway construction all bought and paid for with what we spend on defense in three months.

Suppose that we were to work out a plan with the Russians for the exchange of a million college students. (The Nation suggested something along this line editorially on Feb. 8, 1958). A million Americans would be studying in the Soviet Union while a million Soviet students would be studying here. The cost would be about $3 billion annually over and above what it costs to have these two million students go to college in their own countries. Even if the Russians contributed not a cent, we could pay for the program by spending $37 billion instead of $40 billion a year on armaments. And, so long as there were a million Russian students on our soil, and a million Americans on Russian soil, one could be absolutely certain that neither country would make a surprise attack on the other.

(The Nation, by Dr. E. U. Condon, noted American scientist. He is now Wayman Crow Professor of Physics at Washington University.)

Chicago American, Apr. 13 — The former medical director of a major drug firm told Senate investigators today the drug industry has a simple maxim: "If you can't convince them, confuse them."

This was the testimony of Dr. A. Dale Console of Princeton, N. J., who once headed the medical department of Squibb Laboratories but quit to go back to private practice.

Console told the Senate anti-trust and monopoly sub-committee headed by Senator Estes Kefauver, that the drug industry "is unique in that it can make exploitation appear a noble purpose."

Too often, he said, a drug company has a dozen "detail" or promotion men "each selling a dozen products and backed by a dozen wizards in the home office who hold a dozen conferences trying to determine the best way to make nothing appear like a pot of gold."

"Since so much depends on novelty," he said. "drugs change like women's hemlines. . . ."

Once a man gets out from under the pressure of the Price System he feels safe to expose the racket in which he made his.

Boom or Bust

A staggering total or at least 30 or 40 hotels will have gone into bankruptcy by the end of 1960 in southeast Florida — world famous resort region bordered on the north by Fort Lauderdale and on the south by the razzle-dazzle city of Miami Beach.

This will be the largest total of hotel bankruptcies in the states turbulent history and it will mean that 1960 will go down in Florida's book as the year of the 'shakedown.'

Los Angeles Mirror

(This is a good start on fulfilling the prophecy of the fabulous sixties.)

The Well Informed Misinformers

Sputnick awakened the American public to the reality of Soviet progress in science, technology, education and other fields, making us realize how distorted our picture of the Soviet Union and its people used to be. Some of those distortions have since been corrected; it is no longer considered semi-treasonable to give qualified praise to one aspect or another of life under the Soviets. Even Billy Graham can now afford to compliment the Soviet people without endangering his popularity or being dragged before some congressional vigilante committee.

As great as the transformation of the American public's image of Soviet life and people was, and not withstanding the superficial soul-searching it caused, practically no attempts have been made to affix responsibility for the distorted picture that prevailed until Sputnik. The most obvious question should have been who created and sustained the ficticious picture and why. Yet, this question was hardly asked, and why it was not asked is another important question.

CHANNELS OF INFORMATION

Before Sputnik, the average American used to think of the Russian people as uncivilized, uncultivated, primitive and wild. Our public itself did not create this distorted picture, neither did they visit the Soviet Union, nor were they accessible to Soviet means of communication. The average American neither reads foreign periodicals nor listens to foreign radio broadcasts. Rather, a picture was conveyed to him by those who were in a position to report on the Soviets — the American diplomats and reporters who served as his eyes and ears in the Soviet Unnion.

Our news gathering services are extremely centralized: a dispatch by one news syndicate is carried by thousands of American newspapers; a broadcast over our radio or television reaches people from coast to coast. Necessarily, whatever image of the Soviet Union we received was disseminated through narrow and easily identifiable channels. Under the circumstances our diplomats and reporters may claim all due credit but also must accept all blame for whatever was right and whatever was wrong in the American public's image of the Soviet Union.

Since the service they had been performing for many years prior to Sputnik proved so extremely inaccurate, the question arises whether their distorted reporting was due to an intentional misleading of the American public or merely to their own mistaken perception of Soviet life.

MISTAKE OR INTENTION

The consistency of the totally negative picture given to the American public eliminates all possibility of an unintentionally incorrect perception of our diplomats and reporters. They were acquainted with life in the Soviet Union, they had watched it for prolonged periods of time after having amply qualified themsevles to fulfill just such an assignment. Was it possible for an American reporter, who even before going to the Soviet Union must have been an expert on Soviet problems — else he would not get the assignment, daily to see thousands of Russians in streets, offices and factories and still conceive of them as backward, primitive, uncivilized? Yet, this is the picture he kept supplying to his newspaper with unfailing consistency.

Obviously, there can be no question as to intent: the Soviet picture was slanted in full awareness and in total defiance of honest reporting, with the obvious purpose of prejudicing the American public against everything connected with Communism or the Soviet Union. The reporters turned their back on their professional ethics as well as on the very intrinsic nature of their profession and instead conceived of themselves as political propagandists. The frequent cases of American reporters being ousted from the Soviet Union for distorted reporting were not always the result of totalitarian whims and on numerous occasions expressed a merited Soviet intolerance.

THE WELL INFORMED

While the public was being misled by press and radio, one may safely assume that our diplomats in Soviet Russia kept providing the Government not with propaganda but with as objective and

authentic a picture as they and their staff were capable of obtaining. Of course, it will be many years before diplomatic messages and reports of our era will be available to the general public as historic documents, and this won't happen as long as the issues they deal with remain relevant.

But indirectly, diplomats also report to the people. For our President, members of his Cabinet, members of Congress and the military brass the primary source of information on any foreign country is the American embassy in that country. This applies to the Soviet Union even more exclusively than to other countries with whom our relations and communications may be more diversified. When, therefore, a member of the Cabinet or the Senate Foreign Relations Committee, who has access to information obtained through our embassies, addresses a public meeting and talks about the Soviet Union, he certainly knows the true situation. It would be ridiculous for a congressman to plead ignorance, in a public meeting, of affairs on which he was briefed by State Department officials that very morning. And indeed, he did not plead ignorance: on the contrary, fully invoking the authoritative sources of his information, he proceeded with a depiction of Soviet Life and people that was ultimately proved totally wrong. There can be no doubt about the politician's full awareness of the discrepancy between the facts he received and the fiction he disseminated: in defiance of his public mission, he played the role of voluntary political propagandist.

THE SLANTING CONSPIRACY

The speaker-politician was not the only one present at the briefing by the State Department officials. There were others around: co-members of his congressional committee, government officials, perhaps even some ex-officio guests. The discrepancy between information received on that occasion and that disseminated during a public address in the evening was not his own personal secret. There were others to whom the discrepancy must have been obvious. They too had received a different picture from authoritative sources, and furthermore they knew that their colleague had a different picture of the situation than the one he was depicting before his audience. Yet, neither the speaker-distorter nor his partners to authentic knowledge were embarrassed for each other. The distortion was not therefore, a reflection of one man's dishonesty, but rather a conspiracy of the entire body politic to mislead the public. That the conspirators could still think of themselves as honorable men was due to their rationalizing propagandistic misrepresentation as a patriotic duty.

Nor was our awakening to the reality of Soviet life caused by the collapse of the conspiracy. Rather external developments, over which the conspirators had no control whatever, blasted their carefully nourished fiction. The launching of Sputnik could not be concealed from the American public and the event itself was so inconsistent with the propagandistically inspired image of the Soviet Union that the awakening to reality was instantaneous. The conspirators, caught unpredictably off balance, had no theory to offer, and as long as no searching questions were asked, they did not need to acknowledge their guilt for the popular misconceptions.

An independent press might have played the role of district attorney and asked pointed questions. But a kept press that was itself an active, very vocal party to the conspiracy of deception, was vitally interested in preventing the most obvious and ominous questions from being asked.

As embarrassing as the situation was for our political leaders and the press, they did not lose their equilibrium: rather than plead guilty to perpetrating a historic fraud, they disappeared among the crowd pretending to be as amazed and puzzled as everyone else.

THE UNFINISHED MISSION

Unfortunately, not the entire fraud belongs to the past but only one chapter of it. Although our well - informed - but - illinforming politicians and press can no longer depict the Soviet citizen as a barbarian, nothing has yet happened to frustrate their slanting scheme with respect to other international relations: the picture of the Red Devil versus the American Angel is as alive as ever.

But even those aspects of the slanting conspiracy that have been hopelessly compromised were disowned only within the narrow, immediate confines of the exposure. In other areas the conspiratorial technique is still being applied by orthodox means. A theory is yet to be devised justifying our refusal to "recognize" communist China. Not even the shrewdest pragmatists and stretchers of points were successful in claiming logic for this ostrich policy. Our mere decision not to recognize communist China confirms its existence in the international community. The only possible purpose this policy is serving is to perpetrate the same fraud with respect to a China image as was per-

petrated with respect to the Soviet Union. Here also the public will eventually be shocked out of its erroneous picture, although it would be difficult to predict the occasion. Perhaps what we need to finally wake up to reality that, in addition to everything else, Washington is also the world's capital of mind manipulation, is for the first man on the moon to be neither American nor Russian but Chinese. If this sounds fantastic, it is not much more fantastic than the fact that, behind an American "bamboo curtain," the 'starving,' 'oppressed' and 'decimated' Chinese are already producing their own cars and machinery.

With respect to China it is our Government's intention to create and perpetrate such a fantastically distorted picture that even the presence of "reliable" American reporter-propagandists on Chinese soil is conceived as undesirable. So many constructive developments are taking place in China that even the most slanted reporting would have difficulty concealing all the facts. The State Department's persistent refusal to accommodate an equitable arrangement for an American-Chinese reporter exchange must be weighted in this light.

Misinforming us on Soviet and Chinese life has been pursued as a long range policy. Similar propagandistic lack of candor has misled the American people as a matter of momentary expediency whose geographic and political targets change with each alteration in foreign relations. Whether Dr. Castro is depicted as a Communist or not depends least of all on Dr. Castro's attitude towards Communism; as long as his policies hurt American investors in Cuba, he will be so depicted. But the minute he reverses his agrarian reform, his red tine would miraculously fade out. It has all happened before, whether it involved Nasser of Egypt or Guzman of Guatemala. And tomorrow should de Gaulle start giving us too much trouble, there can be little doubt that our information officers would discover even him sneaking, in the dark of night, into the secret confines of the Kremlin. . .

(This article is reprinted by permission of its author, M. S. Arnoni, Editor of "The Minority of One," P. O. Box 6594, Richmond 30, Va.)

IN THE NAME OF SECURITY—from p. 2

be excused. Fortunately there are a small minority of them who are awakening to their responsibilities and are becoming vocal. Too many of them, however, have apparently sold out for a mess of pottage. Having accepted jobs with the large industries they have traded their independence of thought and expression for the rewards of the Price System and are currently occupied promoting the interests of their employers at the expense of the society which nurtured them.

The plight of those who have accepted jobs with the government in the so-called defense of our country is still worse. They have not only lost their independence of thought and voice but have isolated themselves from contact with their fellow scientists throughout the world. Science knows no political boundaries and is not confined to one country. The only way true science can flourish is in the free flow of knowledge. So in the name of Security and under the jurisdiction of political control our scientists in government face a sterile future.

It would be much better for these people to assume their proper role in society on their own initiative, but the force of events will compel them to whether they are willing or not.

Bigger and Better Headaches

Wall Street Journal, May 3 — This year's favorable production outlook plus fading export prospects threaten bigger burdens for Federal price-supporters. At last count on February 29, the Government owned $7 billion worth of excess farm products. Another $2 billion worth of farm goods were held as security for price support loans and probably will stay in Government hands. By the end of this fiscal year on June 30 the surplus probably will total about $9.2 billion, still below the record of $9.6 billion set last November.

But a $10 billion surplus heap looks likely by next January or February. This year's corn crop could surpass last year's record 4.3 billion bushels. Cotton plantings are up; exports of the fibre are expected to decline.

There's a two year domestic wheat supply on hand, but farmers are heading for a 1960 crop about 7% bigger than last year's.

(This is an insoluble problem under Price System rules but the politicians are attempting it by giving it away, of course not to Americans but to peoples off the Continent.)

Government: By Opinion or By Facts?

Once again our nation is engaged in the periodical, depressing, tawdry circus known as election year. Under the skilled showmanship of the Madison Avenue gang, the actors in both rings are going through their paces before the jaundiced public eye, along with breakfast cereals, cigarettes, beer, cosmetics and soaps. Once more, as money flows like water 'to get our boys in,' the populace is blinded to the real issues. Frivolous diversionary tactics are used to befog and bemuse the addlepated and the immature into voting for someone whose ability to function in the top position in government is neither known nor understood.

Once more the voters are treated to the verbal statistics on venality, weakness and incompetence of aspirants and incumbents alike as, with skilled and unskilled hatchet work, the contenders tear into each other on television screen and in printed word. Our national pride, even before it is all over, is drooping into the dust of further disillusionment (more so this year than usual); and when the circus is over and we turn our attention back to the rat-race which is our work-a-day world, it will be with very little sense of accomplishment.

High standards, major problems and the challenge of new goals will have been subordinated to the top consideration of both sides — getting in! And so similar have the two parties become that the voter could count eeny-meeny-miney-mo in full conscience as he casts his ballot in November. With the dying away of the froth and ferment, the country will sink back into its deepening slough of unsolved social problems. Of course, its people can, as always before, escape any sense of reality by going back to their B-grade amusements; and, for a special thrill, they can contemplate the adventure of getting a man on the moon. However, those who still care will be wondering if the outcome is worth an ounce of the blood, sweat and tears given in behalf of our country by the men who founded it or by those who fought to 'make it safe.' These few will ask searchingly, 'What have all the panegyrics accomplished?'

And they will observe that: The survival of the human race is still as much in jeopardy as ever and, in some respects, more so.

Why?

Because nothing in the basic control of our political setup will have been changed. The same elected and unelected financial-business-political control will still be in there calling every turn. For, although we have reached the stage in our development where quality of government becomes more and more imperative to our survival, the capabilities of those put into office falls steadily shorter of meeting the need. The complexities created by technology cannot be met by the old agrarian-paced measures of politics. Technical men are needed to control the social mechanism — and it is impossible for politics to do anything but hamper such control.

Experts who do strive to bring more efficiency into their various fields through the increased use of science and engineering find themselves stymied by politics hell-bent on preserving the status quo at all costs. Hence, much of our present government in the final analysis turns out to be little more than the blind leading the blind.

OUR PRESENT DAY CODE

It has come to the point where we Americans must face our 'Moment of Truth.' We must ask ourselves some vital questions — for one: Where is our proud American integrity and our high standards of national conduct? Where are our ideals, once deemed worth dying for, and where is our national conscience? There has always been skullduggery, of course, but at no time has it been so wide-spread, so flagrant, so tolerated, and so rewarding. Have we, for instance, tolerated the idea that 'there is a little larceny in all of us' until it has lost its evil connotations and become a part of our national culture? Certainly, by our tolerance of what is socially regarded as evil, we are passing on to our children the code that 'the more we get away with the smarter we are!' And they

are learning also that the Eleventh Commandment is 'Thou shalt not get caught!' Our young are absorbing their own future codes from our example, from comic books, from television, and from the slipshod way in which we deal with malefactors. The evidence of its effect on those young can be read in any newspaper on any day.

Even the best of us have come to accept that those at the top should profit, albeit unduly, from their peculiar advantage. The danger of this is that too many of us have come to admire them in direct ratio to their ill-gotten gains. A Cadillac is a Cadillac whether bought with 'honest' or 'dishonest' money. 'Everybody does it,' echoes from the top-flight leaders down to the very children in our own homes as the excuse for anything. Not all men in positions of leadership are venal, of course; but 'it takes only a few bad apples to spoil the barrel.' Our silence and acquiescence is the alarming factor and is paving a path leading to dissolution of social stability.

Of quite as much danger to our future is the inefficiency of those who smirk and lie their way into high places regardless of their unfitness.

We must ask ourselves why we tolerate a system which battens on crime, which even undermines the very root of our society through demoralization of youth; which permits criminals to merely pay fines and remain free to expand into ever larger operations.

We must face the fact that as long as one is considered a 'square' because he thinks and a subversive because he dares to be different from the herd;

That as long as the 'decent people' are too good, too busy, too tired, or too scared to 'go out on a limb' on issues vital to their country and to their children;

That as long as these same 'decent people' make it their rule of thumb to 'play it safe' by never getting involved in anything controversial;

That as long as heads stay 'buried in the sand' permitting war, waste, crime and want to remain profitable to certain interests;

Just so long will we sink lower and lower as a responsible nation and as an 'influence for good' in an evolving world which needs superior leadership.

We Americans also have some reassessing to do regarding a grave error we have fallen into: the habit of faulty identification. Through this habit we have come to identify wishful thinking as fact, getting by with achievement, and dishonesty and compromise with astuteness. If we look even closer, we find that we have come to regard amusement as happiness. And in the wider area of world affairs we also make false identifications. This was revealed by the shocking fact of Sputnik I passing overhead in orbit after a long period of self-delusion in which we assumed our own leadership in the world as being impregnable. We also identify strength of arms and aggressiveness of military threat as creative policy, ignoring the challenge hurled at us by science to create (out of the components which science has provided) a new world which is now 'crying to be born.' We choose instead to take false backward steps which block social change, security and peace — whereby we succeed only in patching up international differences into a fragile fabric which threatens to give way with every movement on the world scene.

We Americans have come to believe our own propaganda that we are the smartest, the best loved, and the furtherest ahead of all peoples. Even in the face of grim facts to the contrary, most of us cling to the belief that we have achieved all there is in life since we have the most gadgets and the flashiest status symbols. This attitude does little to set us to creating firm bases for the most rewarding form of living. Does our saying 'we are the best; let the rest be like us' make us so?

Fine words are not going to accomplish much at the conference tables of the world if we fail to back them up with suitable acts. The 'Four Freedoms' of American propaganda lose their meaning when the world views our boiling racial problems, our inadequate care for our aged and lack of concern for those displaced by automation — even though we are admittedly the richest nation on earth.

What is holding us back from the solution of our problems?

YOUR VOTE SOLVES—WHAT?

Every two or four years, as the case may be, we cast our votes, in a multiplication of moronity known as an election, for the ones we dislike least as soberly as though we were solving something. Yet nothing significant can be decided thereby; for, neither issues nor capabilities of those who have to meet them are known to the electorate — the lowly voter — and it wouldn't matter if they were!

We accept dishonesty from top to bottom of the social scale shrugging indifferently at the pilfering of the main street bum or cop and the mas-

sive crooked operations of the top-flight gangsters, chiselers, and public officials. Americans have come to accept stealing, lying, the selling of dope and perjury in the courts (as long as it is not happening to them or theirs) and the whole miserable melange is viewed with a zombie-like apathy by the bulk of the population.

Although it is axiomatic that everything contains the seeds of its own decay, and the signs of putrefaction in the Price System are everywhere, self-seeking politics cannot be expected to guide our country toward a sane government based on abundance for all with profits for none. Politics battens on profit and on anything which will guarantee it (even at the risk of total social disintegration) and on the laxness and easy tolerance of the nation. Politics cannot be expected to apply what we KNOW to be best for the general welfare — only what is expedient for staying in office. Hence, any measure of social benefit which does away with profits will be blocked to the last ditch, even though the world is threatened with chaos as a consequence. (Note how President Eisenhower bristles up and angrily vetoes any bill that offers any form of benefit to the general public.)

It is doubtful that a thoughtful person would expect a solution through social change to be guided by our present business-financial-political leadership. It has too much to gain from not changing. We have seen during the past many years the dismal failures of this leadership-combine reflected in acts and inactions of both legislative and executive branches of government, state and federal, to provide much-needed social benefits. A few examples follow:

Our schools are in desperate need of overall planning and expansion to meet the pressure of population growth and the increasingly exacting standards of the modern world. They need increased and improved facilities and better teaching; but, more than these, they need a complete overhaul of our educational methods. But state politics, even though its funds are dwindling and inadequate to meet the needs, keep the educational reins in their own hands rather than surrender their traditional 'states rights' to a central federal control.

Although 1960 brings to 23 million the persons passing the 60-year mark, and in spite of the fact that industry is throwing older workers off the payrolls onto pittances which cannot stretch to meet the rising living costs let alone the more rapidly-rising costs of medical service, nothing substantial has been done in their behalf. Hampered by the American Medical Association, which evidently regards the medical profession as primarily big business to be operated for profit and insists its 'product' be kept scarce and costly, the passage of an adequate health bill has been consistently blocked on the grounds that it would be 'socialistic.'

Although a great uproar followed the exposure of rigged TV shows and focused public attention on the commercials which were not only in poor taste but full of false and harmful statements and altho there were promises of a speedy cleanup in both, nothing discernible has happened.

PROBLEMS ACCUMULATE

What has politics done to pave the way to an understanding of, and solution for, the problem of mass unemployment due to automation? In the past, the more men who were working, the better it was for the economy. Their labor helped create wealth and allowed them to consume a portion of the product of their skills. If workmen struck or industry closed down, everyone suffered, the producer along with the worker and the country. But the picture has changed; and with the change has come a problem which is unique in the history of man. For, automation, doing more and more work with ever fewer man-hours, manages to pile up surpluses which cannot be sold. The producers, by destroying the 'surpluses,' manage to keep the prices up on the rest; but the unemployed man lacks the wherewithal to buy such products. Although Price System apologists insists that the general employment remains high, they neglect to point out that this is due to the fact, so far, that many of those thrown out of work in the production field have found places in the sales and service fields. Even so, in some distressed areas, unemployment has reached 25 per cent of the working force, or one out of four.

One the other side of this distressing picture, it is interesting to note the behavior of our money. Money tends to magnetize other money to form giant pools at the top of the financial structure. Even the 'honest and patriotic' politician or businessman, to be wealthy, finds himself accumulating more and more even though he is aware that what is taking place is at the sacrifice of the rest of the population and may lead the nation into grave financial hazards. One-third of our wealth is now owned by one per cent of the population; while, on the other extreme, nearly one-third of

all Americans own just one per cent of the nation's wealth, and another 23 per cent own just five per cent.

To make the country's problems more dangerous and difficult is the sustained ignorance on the part of the people. This is possible, in a modern age of every facility for complete communication, only because we have a shackled press. Our communication, although it plays a life-and-death role in creating and sustaining general public attitudes, is controlled by the ones who profit most from suppression of the facts. This is fully recognized by many of our foremost dissenting citizens, Frank Stanton of the Columbia Broadcasting Company for one. In a recent statement before the American Society of Newspaper Editors he said, 'An uninformed, ill-informed or mis-informed public is far more deadly to a democracy than any conceivable knowledge that may fall into the hands of unfriendly powers.' But as it pays those in control to maintain an uninformed public, this will not be changed.

Now that we have looked into the bitter brew of the politico-business-financial method of governing, let us turn and look at the alternative, the way of science and engineering.

First, let us note what constitutes a fact: A fact is the close agreement of a serious of observations of a given phenomenon.

This means that facts, rather than men, must agree if we are to come to a proper use of our knowledge, measurements and tools. It is the scientific approach to any problem.

Such an approach requires, first of all, an overall social design. Drastic as are the conditions surrounding us and our future, there is a bright side! For, such a design is already in existence — a design created and presented to North Americans by Technocracy, science applied to the social order.

For the past forty years, Technocrats have been investigating the factors pertaining to the operation of our Price System, following the basic trends which indicate the direction of our economy and predicting the outcome — the breakdown of the present system through its inability to function. Technocracy has charted a new course for North America's survival in a blueprint known as the Technate of North America. This design is available for use at any time the citizens of this Continent call for its installation. How much more of the increasingly difficult and dangerous symptoms of a dying Price System we shall have to endure before this happens is, in part, up to the people of America and will be determined by the tensile strength of their tolerance for conditions of social decay. As long as Americans continue to suffer such things as the increasing slaughter and mayhem on the highways, the unrelaxed tensions involved just in making a living, the rising cost in money and energy just to 'stand still,' as long as we settle for decreasing world prestige and the ever-perilous skirting of the abyss of war and chaos, just so long will we have these things in ever-growing magnitude. Eventually, the technological factors will force the system into an impasse anyway — from which must come fundamental social change or chaos.

The installation of the Technate can make a different picture of the social situation indeed! et us examine briefly some of the differences:

PURCHASING POWER: Instead of using a monetary unit of value, based on gold or other scarce commodity, an Energy Certificate will be used. The Energy Certificate will be based on some unit of energy, such as the kilowatt-hour, and will be able to distribute an abundance of goods and services (which money cannot). The kilowatt-hour is a unit which is measurable and does not vary in quantity from time to time or place to place, hence it provides stability to the economy. This Certificate, which to all intents and purposes looks like a check, will be issued to all North Americans on the basis of citizenship and not on the basis of man-hours of work. Each time a citizen uses a Certificate to make a purchase, he will in effect be casting a vote which has significance to him; for, it says, in substance, 'make another one of these.' Needless to say, it will not take very long for the shoddy goods, now foisted on the buyer by the Price System for quick turnover and profit, to disappear from the market and for prime goods to take their place. The Energy Certificate, being non-transferable and time-limited, cannot be hoarded, cannot be accumulated, and cannot be passed from one generation to another. At the expiration of the time-period for which it has been issued, whatever remains unspent will be reabsorbed into the general economy.

GOVERNMENT: Since profit will no longer be an incentive of government, the qualification for an administrative job in the Technate will simply be a matter of ability to perform a given function. This is easy to establish, for a man's record will reveal his ability in relation to that of others. There will be no necessity for the present dog-eat-

dog pushing toward top positions regardless of fitness, since no position will be in relation to pay —all citizens will receive the same purchasing power regardless of position or kind of work done. With no profit to be made, there will be no incentive for dishonesty in governmental administration and no premiums on shady dealings. Government personnel will be dealing in ponderables and in the production and distribution of goods and services in as efficient a manner as technology can devise.

Our history books teach us that when our forebearers instituted our constitutional form of government it was their intention that it be a government 'of the people, by the people and for the people,' with freedom the goal for every citizen. But, from the facts set forth above, it is apparent how far afield our government has taken us from those stated ideals and how far short it has fallen of welfare and freedom for all.

Only by forsaking the old and now-useless agrarian methods which once defined the limits of our Founders' 'foresight;' only by following the facts of our own era pertaining to resources and technology; only by the application of new and scientific controls to our social order; only thus can we achieve our ideals of freedom for all — in the vital forms of freedom from want, ignorance, crime, disease and war — and a society not only worth fighting and dying for but worth LIVING for.

How about it, Americans! Do you want to go on living in the zombie world of non-fact until the ultimate in confusion, chaos and oblivion overtake us? Or do you want to go forward into the New America that is made possible by the facts of our generation and our new technology?

It is up to you! Study Technocracy. It has the facts and the design.

—Jeannette DeLeon

Disarmament Talks Break Down

On June 27, the ten-nation disarmament talks broke down when the five Communist nations, led by the Soviet Union, walked out of the talks at Geneva. The walkout came as U. S. Delegate Frederick M. Eaton was about to present the Western response to the latest Soviet proposel.

The Soviet bloc action came in the wake of mounting criticism at home and from Western allied nations that the U. S. had little or nothing new to offer by way of counter-proposals. The criticism focused both on the failure of the government to organize itself for thoughtful and systematic policy formulation, and on the inadequacy of the personnel chosen to lead the American negotiating team. In a report released the day before the Geneva disarmament debacle, the National Planning Association characterized American disarmament efforts as 'perilously casual' and criticized the administration for selecting 'unseasoned personnel' for delicate negotiating tasks. The NPA study pointed out: 'Arms control is not an amateur's game. . . . The only continuous feature of our efforts in the disarmament field have been a lack of continuity in top personnel and paucity of planning and research efforts.'

The 10-nation disarmament conference had reconvened this month to discuss a revised disarmament proposal offered by the Soviet Union. This is a modification of the total disarmament plan presented last fall, the most publicized change being to abolish all means of delivering nuclear weapons (including bases on foreign soil) in the first stage of the program.

New aspects of the Soviet plan also include a more detailed disarmament control system, recognition of the need for an international police force, and provision to study control of production of fissionable material. Abolition of means of delivery of nuclear weapons is said to be favored by the French, but since it would eliminate the nuclear 'deterrant' before reduction of conventional weapons, Great Britain and the United States have objected that Russia would gain an advantage. The British delegate stresses Western insistence on a balanced program of reduction of all types of arms at every stage of disarmament; and the American delegate declares that the West cannot agree to 'immediate abolition of the free world's major capabilities for protection against aggression.' The Soviet plan provides that 'no state shall at any stage obtain military advantages over other states as a result of the progress of disarmament and Mr. Zorin said on June 10 in reply to this point: 'If the West . . . consider the Soviet plan is not sufficiently balanced, this could easily be corrected. If the Western powers have any proposals, we are ready to discuss them.' The U. S. is under pressure from its Allies to present counterproposals.

—F.A.S. Newsletter, June 27, 1960
Federation of American Scientists

World Must Now Choose Peace

An address delivered before the Little Summit Conference in San Francisco, May 14, 1960 by Linus Pauling, World Famous scientist, Nobel Prize winner, and Professor of Chemistry at California Institute of Technology.

Fifty years ago, forty, thirty, twenty years ago, there were peace movements in the world. Norman Angell, Jane Addams, Emily Greene Balch, and many other peace leaders presented powerful arguments against war and for peace. Nevertheless, we had the First World War and then the Second World War. It seemed that despite the immorality of war, despite the great and increasing burden of death and destruction and human suffering imposed on the world by the institution of war, it was not possible for the world to get rid of this great evil.

But the world has changed. Now we are going to have peace in the world, forever. We are going to eliminate for all time the evil of war. The future is going to be an unending future of peace and reason, of justice and international law.

What has happened to produce this astounding change in the nature of the world? It is not that the great nations of the world have suddenly become moral, have decided to give up the immorality of war. Instead, they are now forced to abandon war. The methods of waging war have become so terrible that war now has become equivalent to annihilation.

Our nation, the United States of America, is in greater danger today than ever before in its history. We, the American people, are in greater danger than ever before. Next year, or year after next, our nation may cease to exist, you and I and all the rest of the American people may be dead — killed in a devastating nuclear war, in which the nuclear weapons in the great stockpiles of the nuclear powers are used for death and destruction. It is no consolation that, if this were to occur, the U.S.S.R. would also be destroyed and all of the Russian people would also be dead, together with a large part of the people of the rest of the world.

There have been changes in the weapons of destruction in past centuries, but nothing comparable to the change that occurred the last fifteen years. During the Second World War most of the destruction was caused by the explosion of great bombs, one-ton blockbusters. When such a great bomb, with one ton of explosive such as TNT, exploded over a city it could destroy a large building, and it might kill some hundreds of people, if the aim were good. These bombs were terrible weapons.

But now the bombs that are stored in the stockpiles of the nuclear powers are as much as twenty million times more powerful — one bomb, weighing about one ton, is equal to twenty million tons of TNT, seven times all the explosives used in the whole of the Second World War. One of these great bombs could destroy any city in the world— if exploded over New York, it would smash that city flat, and might kill as many as ten million people.

The first of these great bombs, these superbombs, was exploded by the United States, at Bikini on March 1, 1954. This bomb, the Bravo bomb, involved three stages of explosion, all occurring within a few millionths of a second. First, there was the fission of a few pounds of plutonium. The high temperature, millions of degrees, resulting from this explosion then caused the reaction of nuclear fission to take place in about two hundred pounds of lithium deuteride — the nuclei of the atoms of lithium and deuterium combined together, with the liberation of tremendous amounts of energy. The resulting high temperature and supply of neutrons caused fission to occur in the material of the third stage, about one thousand pounds of ordinary uranium metal. The total explosive energy of this one bomb, the first fission-fusion fission bomb to be exploded, was equal to the energy of twenty million tons of TNT — twenty million one-ton block busters. This bomb is called a twenty-megaton bomb.

Since 1954 similar great super bombs have been exploded by the U.S.S.R. and Great Britain. These great superbombs are now the standard

weapons in the stockpiles of the great nuclear powers.

One twenty-megaton bomb exploded over a city would destroy it completely, smash it flat over an area twenty miles in diameter, and every person in this area would be killed through the blast, fire, and immediate radiation effects. Houses would be set afire over a much larger distance, about forty miles in diameter, and a fire storm would rage for days. This great fire would use up oxygen to such an extent that many people in cellars and shelters would be suffocated.

In addition, great amounts of highly radioactive fission products are produced by such a bomb. When a superbomb is exploded within a mile or two of the surface of the earth, thousands of tons of concrete, steel, and soil are vaporized by the fireball of the bomb — a ball of fire four miles in diameter and with temperature of the sun. As this vaporized material condenses, it entraps about eighty percent of the highly radioactive materials, which then is brought to earth during the next two or three hours as the condensed material falls to the surface of the earth. The area seriously contaminated with this local radioactive fallout would cover several thousand square miles. If the fission products from one bomb were uniformly distributed over an area of ten thousand square miles, unprotected people in the area would receive during the first day about twenty times the amount of high energy radiation needed to cause them to die of acute radiation sickness in a few days.

It is accordingly not necessary to hit the target in order to kill most of the people in a city. A twenty-megaton bomb exploded over Los Angeles would destroy the city and might kill four million people in this area. Even if it were to miss Los Angeles by one hundred miles, and explode over Santa Barbara, the local radioactive fallout could still kill most of the people in Los Angeles County, if the wind were blowing in this direction.

At the present time the United States has about 100,000 atomic bombs in its stockpile, and the U.S.S.R. about 50,000. If these great weapons were to be used in the most efficient way 300 bombs would be enough to kill almost everyone in the United States and 4,000 such bombs exploded over the land areas of the earth would be enough to kill almost everybody on earth.

This is an estimate that I have made on the basis of available information. Three years ago Congressman Van Zandt, a member of the Joint Congressional Committee on Atomic Energy, stated that the United States then had fissionable material enough for 35,000 atomic bombs and the U.S.S.R. enough for 10,000. Last year I received a letter from Lester Pearson, former Prime Minister of Canada, in which he wrote that he had information that he considered to be reliable that for the preceding two years the United States had been manufacturing plutonium at the rate corresponding to an additional 20,000 atomic bombs per year. Congress authorized construction of an additional plutonium plant over a year ago, and it is likely that during the last year our rate of production has increased to 25,000 bombs per year.

I estimate that of our 100,000 atomic bombs about 20,000 are great weapons, in the megaton class, and the remainder are smaller bombs, the so-called tactical weapons, a thousand times less powerful than the twenty-megaton superbombs, but still terribly destructive — bombs equal to the Hiroshima and Nagasaki bombs, each of which destroyed a city and killed 100,000 people.

Both the U. S. and the U.S.S.R. have more than enough bombs to kill everybody on earth.

Major General John B. Medaris, retired chief of the Army Ballistic Missile Agency, said on April 20, 1960 that we are risking disaster by pursuing a "philosophy of over-kill" in our preparedness efforts. He said that he sees little sanity in a retaliatory force capable of destroying half the Soviet Union and Asia, while at the same time the great cities of the United States are also destroyed.

There have been many studies made of the effects of hypothetical nuclear attacks on the United States. One of these studies was reported by Dr. W. W. Kellog of the Rand Corporation before the Special Subcommittee on Radiation of the Joint Committee on Atomic Energy in 1957. Discussion was made in this report of a small attack, a medium-sized attack, and some larger nuclear attacks on the United States. The small attack involving 250 five-megaton, ten-megaton, and twenty-megaton bombs, was directed against American cities and military targets. The estimate of the blast, fire, and immediate radiation effects on this small attack is that 86 million Americans would be killed, twenty-five million seriously injured, and the remainder more or less damaged by fallout.

A medium-sized nuclear attack, with 63 atomic bombs, and large attacks, with thousands of bombs,

have also been discussed. It is expected that the attack would be concentrated in the Midwest and Northeastern United States and in Southern California. Probably none of the people in these regions would survive. Possibly 5 million or 10 million survivors would remain, largely, in the unindustrialized regions of Western United States.

Only a small percentage, perhaps five percent, of the area of the United States would be subjected to complete destruction by blast and fire from the atomic weapons. In these areas everything would be destroyed, including airplanes and rockets for retaliation. In the much larger area not subjected to blast and fire, most of the people would in the course of some days die of radiation sickness from the local radioactive fallout, but the retaliatory weapons and the means of delivering them would not be destroyed, and retaliation would occur. On 9 January of this year President Eisenhower said that even if the United States were to be subjected to a great surprise nuclear attack we could still destroy Russia completely, and two weeks later Mr. Khrushchev said that even if the U.S.S.R. were to be subjected to a great surprise nuclear attack they could still destroy the United States completely. Both of these national leaders were telling the truth.

On the 9th of April, the Defense Department stated that America's bombers provide us with the power to deliver explosives equal to many thousands of megatons over the U.S.S.R. — many times more than necessary to destroy the U.S.S.R. We have 1,850 B-47's and B-52's in the SAC. If each were to deliver only one twenty-megaton bomb. the number of these bombs would be six times that required to kill everyone in the U.S.S.R. In addition, there are other means of delivering these weapons — Thor rockets, with magaton atomic warheads, in the British Isles and Italy and other countries, Polaris submarines, intercontinental ballistic missiles.

If a nuclear war were to break out, the United States would be destroyed and the U.S.S.R. would be destroyed, most of the nations of Europe would be destroyed, most of the people in these countries would be killed, people throughout the world would be damaged by the world-wide fallout, civilization itself might come to an end.

It is the recognition of the existence of weapons that, if used, would lead to world destruction that forces the nations of the world to give up the immorality of war and to settle their disputes by recourse to international law, in such a way as to do justice to all nations and all the people of the world. The nations of the world are now forced to accept the same principles of morality and justice that are accepted by individual human beings.

The time has now come when morality and justice will take their proper place of prime importance in the conduct of world affairs.

Two years ago the great nations of the world recognized this fact. The United States and the U.S.S.R. and Great Britain voluntarily abandoned their testing of nuclear weapons, and on October 1, 1958 began negotiations for an international agreement to stop the testing of all nuclear weapons, by all nations in the world, with a system of international inspection and control.

For a year and a half Ambassador Wadsworth, Ambassador Wright, and Ambassador Tsarapkin have labored to formulate this most important of all international agreements — the first agreement in a series of agreements that will bring peace to the world and will free the world of the threat of nuclear destruction.

During the negotiations important concessions have been made by both the U.S.S.R. and the United States. At the present time most of the clauses of the agreement have been formulated and tentatively accepted. The U.S.S.R. has agreed in principle to permit inspection stations within her border and to permit international teams of inspectors to make on-site inspections when there is a suspected violation.

The proposal that is now being given serious discussion is one that was first announced in February 1959 by Prime Minister McMillan and that recently has been advocated by the U.S.S.R. It is that a rigid agreement be made that no tests whatever will be carried out above the surface of the earth or on the surface of the earth, and no underground tests of weapons as large as one thousandth the size of the Bravo superbomb. A system of inspection stations and on-site inspection trips by international teams of inspectors would be set up. Furthermore, each of the nations would pledge itself not to carry out any underground tests even of very small bombs, and in the meantime scientists of different nations would work together on the improvement of the system of inspection stations, with the aim of devising a system that would detect even the smallest atomic bomb explosion.

Professor H. A. Bethe of Cornell University, who is recognized as the most able and outstanding of the physicists on the Scientific Advisory Boards of President Eisenhower and Ambassador Wads-

worth, has stated that the "U.S.S.R. test proposal is a good basis for an agreement for the test cessation at rather small risk," and that the United States and the U.S.S.R. have very little to gain militarily through additional testing of atomic bombs — our stockpile of tested bombs is big enough not only to destroy Russia but to destroy the whole world, and the Russian stockpile of tested bombs is also big enough to destroy the world.

The representative of the United States at the ten-nation disarmament conference at Geneva on April 14, 1960 stated that the U. S. would end the production of all atomic and hydrogen bombs and would permit international inspectors to be stationed at all of our nuclear plants, provided the Soviet Union agrees to take the same step. Our governmennt knows that we have enough bombs now to destroy the world, that the job is done, and that neither we nor the Soviet Union has need for additional bomb tests or for the manufacture of additional bombs.

Can any human being, after considering the facts about the nature of nuclear war, fail to conclude that control of nuclear weapons, world wide disarmament, and the preservation of peace in the world forever are not essential? Can anyone not welcome the progress that has been made during recent months — the voluntary cessation of nuclear tests by all the three great nuclear powers in 1958, the convening of the Geneva conference to formulate a permanent bomb-test agreement, and the continuing efforts to achieve world understanding and an end to the cold war?

The answer to these questions is that there are some people whose ideas are different. For example, there are the people in control of the Allen-Bradley Company, a company manufacturing motor controls and electronic components in Milwaukee, Wis. In advertisements published all over the United States on September 10, 1959, these people, of the Allen-Bradley Company, exhorted us to "make no deals with Khrushchev."

Although it is the official policy of the government of the United States to make an international agreement with the U.S.S.R. and other nations to stop the testing of all nuclear weapons, with a system of inspection stations and inspection trips, and to follow this agreement with further agreements to stop the manufacture of nuclear weapons, to stop the manufacture of vehicles for delivering them, and to achieve general disarmament, there is in the United States strong opposition to agreements of this sort, coming mainly from a small but highly influential group of people centered around Dr. Edward Teller.

The thinking of these people is illustrated by the statements made by Mr. Gerhardt D. Bleicken, Vice-President and Secretary of the John Hancock Mutual Life Insurance Company and a member of the National Academy of Science Advisory Committee on Civil Defense, in his article in the Political Science Quarterly for December 1959. Mr. Bleicken says that we must toughen ourselves for the nuclear devastation. He says that "America must be hardened so that if nuclear war comes and millions are killed; if the nation is fragmented into islands of survival with only remnants of authority; if commands are confusing and conflicting; if invasions occur or are expected; if final annihilation is expected momentarily by those who have thus far survived — then the incredibly difficult mission is not only for the military to prosecute the war successfully, but also for the civilian survivors to pull the United States together and start the long process of rebuilding it segment by segment into a nation. Safety does not lie in abandoning our capacity to wage nuclear war but only in improving it, in making it more real, in making the threat a greater factor in our foreign policy and in the capacity to enforce our national will."

There may also be people in Russia who say that "Safety does not lie in abandoning our capacity to wage nuclear war but only in improving it, in making it more real, in making the threat a greater factor in our foreign policy and in the capacity to enforce our national will upon the rest of the world, by threat of destruction in nuclear war." A policy of this sort followed by the United States and the U.S.S.R. would inevitably lead to catastrophe, to the end of civilization.

Mr. Bleicken is the greatest of all enemies of the United States — Mr. Bleicken and the people like him are the greatest enemies of the United States, the American people, the U.S.S.R., the Russian people, the British people, the French people, the German people, the people of China, or India —of all the world. It is these supporters of war and militariam, these representatives of the forces of evil, whom we must fight against; it is the militarists, industrialists, H-bomb scientists, and politicians in all countries who are striving to find a way to continue to wage war, to impose their national will upon the rest of the world, who are our enemies.

But they are not going to win. We — the believers in peace and reason, who are confident that the time has now come in the history of the world when the great scourge of war can be eliminated — we are going to win. We are going to free the world of the immorality of war. War will now be abolished, forever.

On last August 1959, President Eisenhower in his TV address from London said, "the people of the world want peace so much that the governments would better get out of their way and let them have it." We must not let him forget it.

We, the people of the United States, together with the people of other countries, must continue to tell the governments what we want.

We want Peace!

We want the bomb test agreement to be completed and signed, and we want it to ban the testing of all bombs, on the ground, in the upper atmosphere, underground, by all nations, forever!

We want the manufacture of rockets and supersonic bombers and other means of delivering bombs to be stopped.

We want the nuclear stockpiles to be brought under international control, in such a way as to eliminate the danger that they will be used for the destruction of the world.

We want the preparation for bacteriological and chemical warfare to be banned.

We want international agreements that will lead to a general disarmament, with a system of controls and inspection such as to guarantee, so far as is humanly possible, the safety of the world.

We want the precious resources of this beautiful world to be used for the welfare of human beings all over the world and not for war and death and destruction. We are now wasting each year on armaments a sum of money equal to the total annual income of two thirds of the people of the world.

And we want human rights; we want freedom for human beings all over the world. It is not pacifism, but militarism that is the enemy of the individual human being, the enemy of freedom.

The time has now come when we must all work together in the fight for peace and the fight for freedom — and we are going to win!

DEPRESSION . . . continued from page 8

We will be grown up as a society when we realize that wars and arms races impoverish, not enrich; that success is a bitter reward if it costs friendships; that the machine must serve humanity, not dominate it.

In the meantime, we need no endorsement of theories which originate in the shadowy sections of our economy. We have been taking such prescription for years and the side effects are revolting.

Chas. Neal, Jr. Family Financial Counselor
Los Angeles Times, June 26, '60

U. S. Public Debt now exceeds that of all of the nations of the world combined by $47 billion . . . of total world debt recently estimated to be $534 billion, our share is $290 billion . . . the rest of the free world nations account for the balance except for about one-fourteenth, the Communist bloc's share.

(Once more we demonstrate that we can produce an abundance. If the private debt of only the American people had been calculated in the same manner our share would again have eclipsed the rest of the world.)

Radio control for irrigation system pumps, without leaving the house . . . or from pick-up, tractor or other mobile location is possible with a five pound portable radio transmitter now undergoing trials at University of Arizona.

COVER

In line, fully automated blister packaging equipment. This machine was designed and built by Packaging Industries Lt. The new Sentinel machine having speeds up to 300 transporent blisters per minute, is similar to others now in operation for packaging such large-volume small items as hordware and electronic parts. The machine feeds acetate sheet into the forming unit in which blisters approximating the size and shape of the orticles to be packoged are produced. The sheet is then split into six parallel ribbons of blisters, the blisters are cut from the strip, the product is inserted, and the blister heat sealed to a board imprinted with descriptive infarmation.
—Phato by courtesy of Celanese Carp. of America.

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsidence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

PAMPHLETS

Introduction to Technocracy	25c	Continentalism—The Mandate of Survival	15c
Make Way for Social Change	15c	The Culture of Abundance	15c
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September, 1960 Whole Number 195

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It becomes imperative that the conduct of human affairs be dominated by science, the physical knowledge of the world in which we live. In the passing of the old and the instituting of the new, human conflict will become the bitterest in history. Science is hated and feared by ecclesiastical institutionalism, by corporate enterprise, and political parties. The fear and hatred that will be directed by these against science and its technological application will be far greater than those the Inquisition hurled against all the accumulated heresies.

—Howard Scott

— SECTION STAMP —

DEC. '60

The TECHNOCRAT

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NEWS MAGAZINE

Whole No. 196

25 CENTS

The TECHNOCRAT

DECEMBER, 1960

Editorial

Threat to Dr. Pauling Is Threat to Freedom

Editorial from Pasadena Star-News, Oct. 4

Dr. Linus Pauling, member of the California Institute of Technology faculty, world-famous biochemist, and Nobel Prize winner, is under threat of imprisonment by the Senate Subcommittee on Internal Security on a charge of contempt.

What has Dr. Pauling done?

He has refused to obey an order of the committee to make disclosures that any honest and self-respecting man would be ashamed to make. The tactics of the subcommittee in this instance are undisguised witch-hunting, and they have aroused a storm of protest from newspapers, scientists, and thinkers throughout the world.

Let us review the sequence of events. It is Dr. Pauling's conviction, shared by most thoughtful people the world over, that an international agreement to ban nuclear testing is essential. This view has now, in fact, become official U. S. policy, but that was not so early in 1958, when Dr. Pauling presented a petition to the United Nations bearing the signatures of something more than 11,000 scientists in 49 countries urging such an agreement.

There are people who take the opposite view from Dr. Pauling. They believe there is no alternative to the armaments race, and oppose any moratorium on nuclear testing as unsafe. One of them is Senator Thomas J. Dodd, vice chairman of the subcommittee, before which Dr. Pauling was summoned last June. Cutting through the underbrush, we may as well plainly state that the committee wanted to show that Communist machinations were behind the petition, a view for which we find no evidence.

At any rate, Dr. Pauling produced a list of the signers of the petition. But he refused, on the basis of conscience and morality, a demand to disclose the names of people whom he had asked to help him circulate the petition. It is for this that he has been threatened with imprisonment for contempt. Dr. Pauling has filed action in court in an effort to forestall execution of the order.

The threat of imprisonment is not as fanciful as it may seem. A minister, Dr. Willard Uphaus, is now serving a one-year term in prison for having refused to act as an informer in circumstances very similar to those of the Pauling case.

Dr. Pauling, as he has eloquently pointed out, could not disclose the name of the petition circulators without exposing them to reprisals, including possible loss of their jobs. He has taken full responsibility for the petition upon himself. Disclosure of the names of those he asked to help circulate it would, as he added, make impossible any future circulation of petitions by himself. The right to petition, incidentally, is guaranteed in the Constitution.

The committee's demand on Dr. Pauling has exposed this country to world-wide criticism, just as his dignified refusal has inspired respect and admiration. Dr. Pauling is not only within his legal rights, but within moral rights that all who are fair-minded will respect. Any further harassment of him will shame the whole nation and further endanger our constitutional liberties.

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Business Cuts Its Costs

If you pay attention to the woes of corporate business, you learn that one of its major concerns is the matter of costs incidental to operations. Among the larger items of cost are: plant and equipment; materials and energy; labor and management; taxes, franchises, and financing; and distribution, including advertising and other promotion. The primary aim of the managers of the corporation is to make a profit, the bigger the better. And an all-important factor in making a profit is the reduction of costs.

In spite of all efforts that are being made to evade the principle of free competition, a considerable amount of competition is still to be found in corporate enterprise. There is direct competition with other industries in the same line of production in this country; there is competition with foreign enterprises producing similar goods; and there is competition with corporations producing other lines of goods which may be used as alternatives. The lumber industry, for example, is concerned not only with competition from other lumbermen in this country and with lumber imports; it is also concerned with competition from the merchants of concrete, bricks, cinder blocks, and plasterboard. Although it is technically illegal for the competing corporations to conspire among themselves for purposes of fixing prices, eliminating direct competition, or controlling production, nevertheless, much of it goes on by secret or tacit agreement.

Quality is incidental to profits

Corporate enterprise operates primarily for the purpose of gaining profits for the stockholders; any social benefits they provide are incidentally essential to this primary purpose. The mere fact that business corporations must sell their wares to customers compels them to produce something that will attract buyers; hence, some attention must be given to turning out an acceptable item of merchandise. Even so, it is remarkable how much useless or shoddy produce is pawned off on the public. On the whole, basic consumer need and preference is a matter to be reckoned with. There is a limit to the amount of cost-cutting that can be gained from cheapening the materials used in manufacture of goods; and that limit has already been reached or nearly so.

The cutting of costs requires ingenious tactical planning and scheming to insure that there is a favorable margin of profit between operating and overhead costs on the one hand and the intake from sales on the other hand. But, in order to be a tactical success, one may have to ignore the strategic consequences: like, for instance, if costs are cut by dismissing employees, one must not worry about where the customers are going to get the money to buy one's products. One just assumes that everything else will remain the same as before.

The day of efficiency experts

Many ways have been devised to cut the unit costs of production. One idea of a few decades ago that received considerable emphasis from management was greater efficiency from old equipment and old employees. This was the age of the efficiency expert and the speedup. But it was soon recognized that old equipment and old employees could be accelerated just so much, and that was not enough. (During the war, when most production was on cost-plus contract, efficiency was discouraged by business enterprise; and it has not become a prominent feature of cost-cutting since.) Other and more effective techniques have come into play and into fashion.

Faster machines have been one answer. By moving faster, the new machines could turn out more units per hour or per day. But that was not

all that happened. Faster machines are often smaller than the slower machines; and one machine may replace two or more of the old machines. They occupy less space, and that cuts down on overhead cost. Also, the faster machines must be better designed and built, which means that they will operate for a longer period of time. Further, they cannot be gauged to the slow movement of human workers; so they are made more automatic with mechanical or electronic feeds and shifts. The number of operators is reduced. But this has introduced other problems.

Abandoning obsolete plants has left many communities stranded

The old plant often was too large and too antiquated for the new machines. The older employees could not psychologically adjust to the higher speeds and fewer workers. Management tended to be lured by siren songs from afar. Non-industrialized areas all over the country were screaming for new industries to come in, and they were making seductive offers to entice corporate enterprise to move into their areas. So it became expedient, in more ways than one, for the old enterprise to move a long distance from its established location, build a brand new plant, equipped with new modern machinery, and hire a new and younger crew of workmen. It could then abandon its old plant in a high-tax location, along with its older workers, many of whom had acquired considerable seniority and were approaching retirement age, and in effect start all over in a much lower-unit-cost setup. Business is business; it is not a social service. The politicians in the old location could worry about the mess left behind.

This was just a beginning in the trend toward cutting costs. Competitor companies were doing likewise. Moreover, foreign corporations were joining the march, often aided by local government participation. The effects of competition had to be reduced. This problem was met in large part by the consolidation of two or more competitors under one roof — sometimes through purchase, sometimes through mergers, sometimes through bankruptcy or liquidation sales. Besides reducing competition, mergers permitted the new combines to reduce plants and equipment; it permitted the abolition of duplicate management and office staffs as well as duplicate research staffs and selling organizations. This proved to be such a smart trick that it is gaining in popularity all through the free enterprise system; business news includes accounts of mergers of major companies almost daily.

Automation the present answer

During the postwar prosperity boom, a still newer concept began to creep into the board rooms of corporate enterprise — the concept of automaticity, which was given the name of 'automation.' With automation, a whole production line operates continuously without workers. This came as a major shock to the labor unions; and they had no answer to it except resistance. It also presented certain new problems to industry. An automated production line was very costly and only the major companies could afford it. Once in operation, the rate of output was so high that conventional means of moving the goods would not suffice. Furthermore, one or a few automated lines would produce all the copies of a certain item that the world market could absorb. That means that the less modernized competitors have to fold up.

Automation was not an American monopoly, either. It gained rapid acceptance in Western Europe, in Eastern Europe, and in Russia; where, in some instances, the rates of production exceeded the best in the United States. For instance, an automobile assembly line in France or West Germany can turn out cars faster than American assembly lines.

It soon became apparent that the market could not handle all of the production of certain automated lines that turned out a uniform product. The answer to that is versatile machines and adaptable production lines—machines and lines that can shift from one variety of item to another. With punched-tape programming, such shifts can be effected almost without interruption, and without human supervision. Other times, certain physical factors trigger the changes in operation. As a small, simple example, an automatic cake-wrapping machine will adjust the size and shape of the wrapping to the size and shape of the cake to be wrapped.

An automated line is costly to install; but, once it is installed and in operation, the unit cost of item produced goes way down — that is, if it can be kept operating long enough and continuously enough. The big saving is in labor costs.

The flight of production to foreign lands

American corporations are finding still other ways of cutting costs, some of which are not quite in tune with their proclaimed devotion to the American Way. Many companies are now setting up foreign branches, where they can operate and produce at lower cost than in the United States. This also relieves them of the shipping costs that would be involved in selling American-made produce in the foreign markets near where the plants are located. It also helps them to dodge American taxes. Some of these American-owned foreign branches, such as those in Japan and West Europe, are able to ship their goods 'back' to the United States and undersell the same kind of goods made by the parent corporation in America. In fact, some companies have transferred their entire production of certain lines abroad and supply the American market from their foreign branches. 'Buy American-made goods' may be a sentimental slogan of American labor — a form of self-interested patriotism — but Big Business is far more interested in making profits than in being strictly patriotic.

The fallacy of protecting special groups

American Labor has missed the boat. Its vision of Paradise has been a place where all Union Members in good standing had full-time jobs plus opportunities for overtime at a continuously increasing rate of pay. This vision provided a basis for some smart tactical maneuvering on a short-term proposition; but, in the long run, it is strategically disastrous. Management holds the winning cards in that particular gamble.

As Labor increased its wage and benefit demands, Management was stimulated to overcompensate for this added labor cost with labor-saving technology. Labor noted the trend, but, in short-sighted stubbornness, fought to retard the use of automation and continued to fight for higher pay. Technocracy has always applauded this struggle of Labor for higher pay; for, Technocracy has always supported the principle of Freedom from Toil. The more Labor fights for higher pay, the more Management will turn to automatic technology and the sooner the worker will be liberated from toil. Social change will come through the increasing installation of automatic technology, not directly from the struggle of Labor for higher pay.

Some Labor leaders sought to ingratiate the cause of Labor with Management by proclaiming common cause with the aims of Management. They adopted bourgeois concepts and patterns of living and promoted bourgeois ideals among the union members; they tried to become as One with Management in the great economic crusade of the American Century. Not all Labor Unions were so eager to cozy up to Big Business as were the AFL and CIO, now the AFL-CIO. Among the recalcitrants were the United Mine Workers; the Electrical Workers; the Mine, Mill and Smelter Workers; the Teamsters; and certain of the Longshoremen's unions. These unions soon were in the dog-house of both Management and the "respectable' unions. The recalcitrant unions were not necessarily more strategically astute, however, than the conservative unions — some, such as the Teamsters, were merely acting independently.

Only two major unions have, so far, recognized the trends enough to adapt to them rather than fight them. These are the United Mine Workers under John L. Lewis and the West Coast Longshoremen's Union under Harry Bridges. Both have agreed to the use of automation in exchange for certain cash benefits. These unions are, and will continue to be, shrinking quantities; but, at least, the remnants will live in peace and prosperity while the system lasts. The United Mine Workers has been a showcase example of benevolent socialization. The West Coast Longshoremen's Union has yet to experience its new way of life, having just recently agreed to the use of automation. As other unions agree to a similar pattern, social change in America will be on the march at a faster tempo.

No future for either labor or management

Of course, Management is as short-sighted in the strategic sense as is Labor. The two factions are tied in together; neither one has any future without the other. Both depend on the selling of the products of their joint enterprise to the customers — either the consumers or the government. Export sales may be considered as a third category of customer, but they are pretty well offset by imports. The really big disposal of produce goes to the domestic consumers; and this depends on their having the purchasing power (cash or credit) to buy the stuff. As cuts are made in labor costs, much of the gain must go into increased

sales promotion, mainly in the form of advertising and salesmanship.

Political panacea

But the major blessing to corporate enterprise and union labor comes in the form of increased government spending. This is financed through taxes and government debt. The big stimulus for large-scale government spending is war and preparation for war. Hence, neither Management nor Labor wants any end to the Cold War; both demand increased 'defense' spending. . . . Rumors of peace consistently cause panics in the stock market.

The crusade to cut costs by Free Enterprise extends only to the production and distribution processes. It does not extend to include the welfare of the consumer. On the contrary, the consumer is bedeviled with increasing costs and diminishing qualities; he is wheedled in every possible way to spend more, and consume more, and throw away more. He is encouraged to develop unthrifty habits of consumption. (Although this is all related to the problem of cutting costs by business enterprise, that aspect is another story and we shall not dwell on it here.)

Business is, by tradition and inclination, conservative. It hates innovation and it despises progress. But it is caught in a rat-race from which it cannot escape. It must rush merrily along, increasing production, cutting costs, and selling ever-increasing quantities or be left in the backwash.

Diversification

Corporations must expand continuously until they reach a stalemate in the market due to saturation. After glutting the home market, their next goal is to expand abroad; but that is not always feasible due to foreign competition or exclusion. The next avenue of escape is diversification — going into other lines of production. This process often means the buying up of corporations already engaged in other lines of business, and it often results in a remarkable companionship. We have such incongruities as oil companies going into the dairy business, and aircraft companies going into textiles. Such mergers are not always clear sailing for the expanding corporation, however; for, the new acquisition may already be in trouble with competition or a saturated market in its own field.

If the expanding company tries to start a brand new subsidiary in some other field, it may run into even greater trouble. It must build a new plant, acquire a new labor force, introduce a new brand name on the market, and fight established competitors. Its main hope is in producing a better quality product or in selling at a lower price; but few corporations are willing to do that. Venturing into new lines has often proven a very effective means of reducing surplus financial reserves.

Thus, corporate enterprises strive to gain greater control of their respective industries through manipulation and expansion, to gain greater shares of the market through increased promotion, and to gain greater efficiency through mergers. But these maneuvers are limited in their effect on cutting costs; sometimes, the operational costs are increased thereby. The last resort is the cutting of labor costs; and this is where industry can concentrate with the most satisfying results. The gimmick here is automaticity.

Progression by stages

Historically, the progress in cutting labor costs has developed through several stages, not counting the stage that has been chronic all through man's social existence, namely slave labor and very low-paid labor.

The first of the modern stages stressed efficiency and speedup. Besides being limited in its effectiveness, this procedure had unpleasant sequelae, mostly in the form of labor strikes.

The second stage consisted of mechanization of the worker. He was provided with power tools to supplant manual tools. This stage reduced labor costs considerably while it increased production. But it was soon to be outmoded.

The third stage was the introduction of new designs of tools, which could do much more work with fewer operators. Still the worker was required to operate the machine.

The fourth stage introduced the automatic machine, which the employee merely set up and occasionally supervised. The machine did all the work.

The fifth stage consisted of the automating of certain phases of the work, wherein a whole series of operations would be done automatically by machines without workers. This procedure came into prominence after World War II and was known as automation.

Some industries are now entering into the sixth stage, which is the super-automation of whole systems — the automatic integration of 'islands of automation.' The automaticity may include repair and maintenance as well as actual operation. The whole plant or system of plants may be operated from some remote control office, while no workers may be within miles of the plant.

Different industries have advanced to different stages in this sequence of cutting labor costs. Those of you who are familiar with modern developments in agriculture, coal mining, metal mining, oil refining, manufacturing, transportation, or communications will recognize the extent to which that particular industry has progressed through this general trend. Already crewless trains and crewless ships are being tested for probable future applications. In a growing number of places, telephoning, including long distance, is being done without operators. Bookkeeping in banks is being handled by automation. An increasing number of automatic vending machines are being installed, even automatic self-service laundries.

Freedom from toil is all very nice as a social goal and as a benefit to the individual. But, unless it is correlated with other social developments, it may lead to that unfavorable state of existence now known as unemployment, wherein the victim is bedeviled with poverty, misery, and social disdain. Even long hours at hard labor are usually considered more desirable than that. The unemployed, in their frustration and desperation, become a serious social problem, potentially capable of being organized into mob actions which might be violent and destructive. The mob is the one form of overt protest that The Law is least able to handle; and many local administrations, sometimes national governments, have collapsed in the face of it.

An acceptable and essential adjunct to Freedom from Toil is an unearned income. In the past, when there was always plenty of work to keep the population occupied, this combination of benevolent circumstances accrued only to Ladies and Gentlemen; and it was known as Leisure. Leisure was a status so rare and so enviable that only a very few could attain and hold onto it. More recently, as technology has taken over most of the work, a status of leisure has 'filtered down' to the Middle Class through the devices of usury, rentals, insurance, investments, and honorary appointments, plus some advantages from inheritance. As disemployments and retirements increase, the trend is toward extending freedom from toil and unearned income to all but the lowest of the low. This is creeping into being through Unemployment Compensation and Social Security.

Socialization of the purchasing power of the consumer is an imperative corollary of freedom from toil in Modern Times, and it is being forced on us by the utilization of automatic technology. The cutting of costs by corporate enterprise is a significant contributing factor.

The Ladies and Gentlemen of the past were a high-cost burden on the society of their time; and the economy could support only a few of them. They leeched the economy, over-worked the populace, and often took their provinces into war to provide the wherewithal to support their elegance, ostentation, and prestige of person; and they tended to be wasteful and arrogant in their kept status.

Today, the social cost of maintaining the lesser ladies and gentlemen who have been elevated to that status by fortuitous social circumstances and the fruits of technological production, is far more costly because of the much greater numbers. Their ranch houses in Suburbia, their late model limousines, their golf courses, and their speedboats all add to the social cost and detract from the social heritage. Now the trend is toward a facsimile of the same, on a lesser scale, for the 'lower classes' who attain their status of leisure under this system.

Leisure has become the accepted antidote for toil and thrift. But Leisure has become an equally obnoxious social disease, certainly a more costly one. What is the antidote for Leisure?

Technocracy has long stressed, in many places and in many ways, the imperative need for cutting social costs. A part of this program is the institution of a social order that would eliminate the possible acquisition of personal prestige through ostentation and waste. Values other than those of Ladies and Gentlemen must supplant those that have been inherited from the decadence of the past. The new values must be functional in concept and be subjectively satisfying to the individual — on an individual basis.

Can such a program and such a set of values be achieved under the Price System? No! But they can be achieved in a Technocracy. Year by year, Technocracy is becoming more certainly and more obviously the only antidote to the Price System and its virulent side-effects.

So, why not use some of your own automation-created 'leisure' to study up on the next most probable social state on the North American Continent? Who knows, you may be inspired to project yourself beyond the narrow, self-centered pursuits of a futile status quo!

—Wilton Ivie

'Do Them Good – and Often'

'Obsolete number' is the present merchandising gag. In a friend's kitchen in the suburbs stands a gleaming white gas stove — chrome decor, 'new, improved,' 'a delight to any housewife's heart' was the sales pitch from Madison Avenue.

But, sad to relate, the 'special design' burners soon burned out. So Daddy got his instructions to stop by with his checkbook and have a new set sent out, 'today, sure.'

'It's too bad, sir, but that model has been obsoleted and we have no parts for it.'

Then, there's that other kitchen with its noble refrigerator still struggling along after a year or more with door gasket leaking air. So, Pop finally was prevailed upon to spend $5 for a new gasket; but, when the $5 worth arrived, it was just a long strip of rubber. He had to cut his own corner mitres with an old straight razor and fill in the irregularities with rubber cement, surgical tape, etc. An unfair load is thus placed on the motor mechanism and on the sweet little housewife who has to defrost frequently.

Mentioning razor blades brings us back to the story of the technologist who was in charge of making the first safety razor blades and was appalled by orders from the front office: 'Burn those edges so they will break down after four or five shaves!' Try getting even four or five shaves today!

I had dealt for several years with an honest Pennsylvania manufacturer who sold by direct mail. He sent out his trial run of nylon and wool socks back in the early 1940's; and I happened to be one of the fortunate few old customers who laid $24 on the line for 12 pairs. They're still in daily use and my wife has never laid a darning needle to them. You can't get that quality now.

Our technologists have the know-how to put the specifications of Technocracy on the production line right now and to stop the chicanery of endless duplication of effort, with the wastage of raw materials involved.

But the American sucker-consumers seem content to be taken in by this stupid Price System game of having to go back and buy a new gadget with built-in defects when the first one, no doubt, could have been made to last for lifetime use. . . . A splashy package with garish announcement of a prize contest with coupons inside disguises the fact that the contents have been slyly reduced from a pound to 12 ounces. . . . The customer never stops to think that the storekeeper pays $5 for each book of trading stamps he hands out and has already marked up his products at least that much; yet, he never gets that much at the 'trading in' although he has spent at least $120 to get the stamps. Many stamps, for one reason or another, never get traded in. . . . 'Giant size,' 'King Size,' '2 for 59c,' etc., are other dodges to entice the housewife to lug home more than she needs although a little figuring on an old envelope would show her that she's 'saving' only one-half to one cent on the item.

The story of Price System chicanery is endless.

It's time Americans cut out all this pettifogging and called on their scientists and technically trained people to 'Do your stuff!'

—Raymond Wardell

Machines That Almost Think

When a shipment of pipe failed to reach an Esso Standard refinery on schedule recently, a message went off to the supplier: "This is our second request for shipping date for the above order. Please furnish by return mail."

Back from the supplier came a reply: "Tracing at mill. Will advise shipping date."

This ordinary exchange had an extraordinary feature. The messages were composed, not by people, but by a pair of electronic computers that tapped them out on high-speed printers, thereby providing a minor example of how electronic data processing is helping to run the affairs of modern industry.

In recent years Jersey Standard and its affiliates have found an increasing number of applications for electronic computers as the machines have become speedier and more versatile. Company engineers, mathematicians and business-systems specialists have worked out new uses for computers both as tools of management and as technical and scientific aids. These experts have taught today's large-capacity computing devices to solve immensely difficult mathematical problems essential to the operation of oil refineries, and also to perform with great speed and accuracy more workaday tasks such as balancing books, figuring and printing pay checks and filing vast stores of information for ready reference. Through the world-wide operations of its affiliated companies, Jersey has become a leading user of computers, with thirty-six systems now in operation or soon to be installed in fourteen countries.

A recent development in the company's data processing program was the opening of a New York computer center which consolidates many services under one roof for greater efficiency and economy.

The Manhattan Data Processing Center is helping to handle paperwork for Jersey affiliates in the area and is gradually enlarging its operations to cover financial and sales reporting, transportation scheduling, payrolls and other accounting and record-handling functions.

Plans for the center are large in scope. Jersey's New York office have long served as clearinghouses for huge amounts of information flowing in daily from around the world by mail, telephone, teletype, telegraph and radio. Financial data may be expressed in dollars, pounds, francs, pesos, kroner or other currencies, and their interpretation may depend on a variety of laws and regulations. Now the data processing is beginning to take over the task of receiving, classifying and sorting out this mass of information and automatically extracting the particular facts and figures needed for each department of the parent company. Performing arithmetical calculations at speeds measured in millionths of a second, the electronic computer will produce up-to-date, accurate and complete reports that will enable management to make decisions with the benefit of more comprehensive and timely information than was formerly available.

Jersey and affiliated company managements regard data processing as a logical extension of methods they have been applying for years to business and technical problems. Progress from hand-entry bookkeeping and slide-rule calculation to mechanical office machines, electrical card punchers and sorters and, finally, today's large-capacity electronic systems has been gradual and orderly. The new systems themselves are an outgrowth of the need during World War II for automatic weapons whose accurate aiming and firing depended on electronic controls. Similar devices, which grew into room-sized aggregates of vacuum tubes and circuits, also helped solve wartime research problems in nuclear physics and other fields.

Large scale IBM 705 data processing systems have been in operation for some years at refineries of Jersey Standard affiliates in Baton Rouge, Louisiana; Linden, New Jersey, and Baytown, Texas. Medium-sized systems are installed at plants in Aruba, Canada, England, France, Germany and Venezuela. They have taken on tasks in both paperwork and technical computation that demand truly super-human capacity and speed of operation.

In order to do its work, a computer must first receive a set of instructions informing it of the mathematical computations to be performed on any given set of data, in their proper order. A key man in the process is the "programer," who translates data processing requirements into a kind of Esperanto which the machine can understand. For running a payroll, for example, he will begin with the instruction to "add tot pay" (add total pay). This and subsequent orders are punched out line by line on IBM cards by a girl at a key-punch machine. A card reading device then automatically translates the coded holes into a pattern of magnetized spots on a reel of oxide-coated tape. From this tape the computer takes its instructions and stores them in its magnetic memory core. Other tapes containing employee names, numbers, wage rates and hours worked are then fed into the computer, which performs the necessary calculations and prints the checks. Each employee's gross pay, deductions and net pay are computed in the time it takes to blink an eye. Tax deductions, social security, medical insurance, savings bond deductions and other computations are made automatically, and at the end of the month reports are produced for each of these accounts.

The machine double checks its figures. If the wrong hourly wage is fed in for any employee, a printer mounted on the console types out the warning: "bad rates." If a name is entered which cannot be found in the computer's master tape file, it signals: "no master record."

In many Jersey affiliates, sales and financial reports are being prepared with the same speed and accuracy. The result is better cost control, along with statistical analyses that keep track from month to month of the shipping pattern of hundreds of different refinery products. By means of a system known as process accounting, computers now check every barrel of crude oil that comes into a refinery, count every gallon as it is processed and every gallon of finished product pumped from a tank for delivery. The computer program which the system engineers have devised is so precise and detailed in its calculations that it automatically allows for the slightly varying capacity of tanks with floating roofs or cone bottoms.

Data processing systems have also been put in charge of the huge stocks in refinery warehouses. The system at Bayway keeps a perpetual inventory of some 23,000 different items stored there, plus an additional 10,000 items at Bayonne. The computer compares daily reports of supplies drawn from stock against its list of current supplies (not forgetting what may be already on order) and thus makes sure that the refinery never runs short of such items as abrasives, bottle caps, canvas, nails, pumps, winches or yarn. The machine has been programmed so that at the proper time it will print out an order for the item number 15-120-773, a certain brand of soap powder. At the same time it will check through its memory to see if any other soaps are near the reorder point, as it would naturally be more economical to place several orders at once. By keeping optimum inventory levels, the computer has cut by 34 per cent the amount of money tied up in supplies needed for day-to-day maintenance.

Handling such massive bookkeeping operations with speed and accuracy is only a part of the job performed for the oil industry by electronic computers. Equally important is the tremendous amount of technical assistance that these giant slaves are providing for scientists and engineers.

One of the first computers put to work for petroleum science was designed and built by the Carter Oil Company's production research department (now the Jersey Production Research Company) in Tulsa, Oklahoma, during World War II. Called the oil pool analyzer, it serves as a functional model of an underground oil reservoir, and it can be used to predict the behavior of a specific pool under varying conditions. Inside the computer, the flow of current through a network of resistors corresponds to the flow of oil and water through porous rock. The electrical storage capacity of condensers corresponds to the fluid storage capacity of rock. By twisting the right knobs, engineers can find out how the oil, gas and water in a particular area will behave if, for example, more wells are drilled in certain locations. They can decide how to control the pool and whether gas or water should be injected for maximum ultimate recovery.

The Carter analyzer and others like it have helped to establish good reservoir practice in hun-

dreds of oil fields in many parts of the world. The computer has made it possible to set production schedules for years in advance, with the assurance that actual results will agree closely with the forecast. It has been estimated that the machine solves in fifteen hours problems that would take a man working with a desk calculator twenty years to complete.

Electronic computers are also simulating many other complex processes, such as the continuous flow of gases and liquids through a refinery. Large-scale digital computers have been programmed in recent years to produce detailed refinery running plans, which emerge as neatly printed schedules of fifty to one hundred pages in length.

In the event that market conditions change and a different pattern of product output is called for, the computer can determine what changes should be made in operating procedure to meet the altered demand most economically. It will then print a new plan complete with feed rates, vapor temperatures, heat balances, product yield and final profit and loss statement. If a breakdown should occur, the computer can evaluate alternative ways to meet the emergency. Notable savings in the cost of operation have resulted.

Scientists and engineers at Jersey's computer centers are constantly devising ways to solve problems faster. At the Florham Park, New Jersey, installation of Esso Research and Engineering Company, an IBM 704 system works around the clock as a service for other affiliates. The Florham Park staff has assisted engineers and scientists throughout the Jersey Company in working out many of the basic mathematical translation methods used in computer programs. Ways have been devised to build a mathematical model of a bearing in operation, translating force, temperature, viscosity of oil and other factors into a series of equations that can be solved by the computer in order to study lubrication problems. The combustion process in an engine has been programmed on the computer to calculate the effect of changes in operating conditions on fuel combustion. The most economical methods for constructing various refinery units and piping systems can also be determined by electronic means.

A typical example of the savings realized by using computers as engineering aids may be seen in the Esso refinery now under construction at Slagen, Norway. Much of this plant was designed with the help of computer programs that estimated costs and solved problems in process planning and mechanical design. A program to simulate marine terminal operations cut costs of piping, pumps and docking facilities. Even the strain on ship's hawsers under varying conditions of wind and tide was calculated to develop the best mooring system at the lowest price. The saving in engineering man-hours and the reduction in equipment cost at Slagen amounted to nearly a half million dollars.

Another computer program developed by Esso Research and Engineering is now used by Esso Standard in New York to oversee the scheduling of the tanker fleet that delivers refined products from Gulf Coast refineries to eleven dockside terminals along the eastern seaboard. The computer is currently keeping track of twenty different products carried in eighteen to twenty tankers in order to meet inventory needs at terminals in the Carolinas to Massachusetts. Esso supply men can determine what to load and where to send it so that inventories will not be excessive; yet no tank will run dry, and tanker voyage miles will be kept at a minimum.

An example of the dollar-and-cents value of electronic brains to the oil industry was reported not long ago by the Baton Rouge refinery, where a computer has been used to calculate optimum operating conditions for gasoline production. The purpose of this program is to produce the most valuable end products from any type of crude oil. It has increased refinery profits by as much as $3,000 per day.

New products have also resulted from computer programs. A superior motor oil called New Uniflo, recently put on the market by Esso Standard, was developed from a formula devised with electronic aid. The new lubricant is based on a complex polymer, or super molecule, which was built up through a series of chemical reactions planned on the basis of computer studies.

The gradual trend in both technical computer work of this kind and in data processing is toward fewer but larger systems. For example, Florham Park is planning to install a new, completely transistorized IBM 7090 system with much greater capacity and six times the speed of the present system. The increase in speed and capacity will lower the cost per unit of work and will bring more projects into the category of those that can be handled economically by electronics.

Systems are also being linked together for the rapid exchange of data. The computer at Baton Rouge refinery is now connected by leased telephone circuits to both New York and Florham

Park. This enables a punch-card transceiver at Baton Rouge to send operating and sales information directly to New York for processing. Or Baton Rouge can transmit a problem in gasoline blending to Florham Park and get answers back, punched out on its own transceiver. New magnetic tape devices are on order that will eliminate the intermediate card punching step, and will send and receive data over telephone lines at rates of thirty words a second—fifteen times faster than human speech. These tape terminals will chatter to one another in computer language as easily as two people now converse long distance.

A number of steps toward centralization have been taken at the Manhattan Data Processing Center, which now handles major bookkeeping chores for all offices of Jersey and affiliates in the New York area. The center's 705 computes and prints pay checks for 4,700 employees. An even larger centralized program is the bookkeeping for the company's employee savings plan, with 40,000 members throughout the United States. An average of 700 daily transactions—withdrawals, stock purchases, loans—are received and processed by the computer.

Even more ambitious plans for future consolidation of services are being made by the systems coordination division of the Jersey comptroller's department in New York, where a staff of specialists assists affiliates in developing new data processing programs. The coordination division also works with affiliates to make certain that every new data processing installation is justified in terms of measurable savings to the company. One of their principal objectives is to achieve greater economy and speed in preparing records and reports for management, without in any way interfering with the decentralized operation of Jersey's world-wide affiliates. They are presently at work on various standardized systems of reporting, so that information for data processing will be prepared in a form which can be readily digested by a computer.

In the area of financial reporting, for example, more than two hundred affiliated companies and divisions of companies will supply the Manhattan center with basic raw material, and the computer will make checks for accuracy against prior balances and figure totals and breakdowns for consolidated financial statements. The affiliates should eventually be relieved of a great deal of costly accounting.

Experts working on personnel projects forsee the day when an integrated system will handle the records of all 146,000 employees of affiliates throughout the world. A few inches of magnetic tape will contain each individual's age, employment experience, promotions and pay, insurance and pension records and other personnel data. The record will be completely confidential because it will exist only on tape and will be available only to authorized persons.

Duplication of effort will be eliminated and the usefulness of the personnel file will be greatly increased. "Today," a system man explains, "if we want to find an engineer under thirty, unmarried, who has a background in geophysics, it may take weeks to search the files. The computer will locate a man like that, anywhere in the company, in a few minutes."

The Jersey organization is advancing, one logical step at a time, with the new electronic techniques as they become increasingly useful. Both data processing and scientific computation offer new ways to meet the expanding needs of the future, improve the company's competitive position and release talented personnel from routine tasks to more creative and productive work. On the basis of the record so far, there can be little doubt that the high-speed computer is one of the most powerful and productive tools science has ever placed at the service of industry.

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COVER

A computer at the labaratary af the Jersey Productian Research Campany in Tulsa, Oklahama. Caurtesy af Jersey Standard.

CORRECTING AN OVERSIGHT

In publishing the article by Linus Pauling in the September issue af the Technacrat we neglected to state that it appeared there by permission of The Pragressive Warld, a magazine af Free Thaught.

RESEARCH BULLETIN

The Congressional Record, May 24, 1960, Page 10213—Uncle Sam is widely known as the world's best hoarder, who never throws anything away, and seldom sells it.

What is less generally realized is that the Department of Agriculture, which has $7 billion worth of surplus farmstuff squirreled away is a piker in this line.

The Defense Department has surplus odds and ends adding up to nearly four times as much as Agriculture's little nest egg. At the latest count, military surplus and excess stocks (there's a difference we don't have to go into at the moment) had a book value of $26.7 billion.

At the same time, the armed services are in the process of buying $23 billion worth of new materials — some of it identical to the surplus supplies that are being stored or prepared for sale.

Aside from the fact that it is costing $134 million a year to store this stuff and keep track of it and try to figure out what to do with it, there are some other features of the buying and selling operation (military) that are important.

A lot of the material is useful to civilians — but the government can't unload it without kicking the bottom out of the commercial market.

The average return when military surplus is sold is about 2 cents on the dollar, minus the cost of getting it ready for sale and selling it.

The Pentagon confusion in buying and hoarding and selling means that the country is getting less defense than it is paying for. The picture has been brought into focus in a report prepared for the Joint Congressional Committee on economics by two staff specialists, Ray Ward and Richard J. Newman.

They found out that there is no office in the Pentagon that has general supervision of the sprawling procurement activity, that it is difficult for one military service to find out what another is doing, and in most cases they don't want to find out.

That is why, for example, the army about a year ago was trying to buy $3 million worth of spare parts for helicopters, while the Air Force was wondering what to do with $6 million worth of identical parts in it's excess stocks.

It also contributes to the military needs of more that 585 million square feet of warehouse space (that's roughly 21 miles) to house it's inventory.

A committee staffer estimated that the warehouse space cost around $4 per square foot.

This year the military is planning to sell $10 billion worth of surplus material, for which it expects to reccive about $260 million. It will cost about $75 million to prepare it for sale and dispose of it.

(Americans seldom see the Congressional Record though it is available from the Superintendent of Documents. The papers and magazines have been throwing the spotlight on the farm situation so that few realize the tremendous subsidy the manufacturing fraternity has been receiving. Could it possibly be that the U. S. Chamber of Commerce or the National Association of Manufacturers had anything to do with hiding their light under a basket?)

* * *

Toronto Globe and Mail, September 3, Vancouver (CP)—While Canadian Industries Ltd. showed a gain in the first six months this year, company officials are pessimistic about the Canadian economic picture as a whole this year.

Here for a director's meeting, president Peter C. Allen and vice-president Leonard Hynes of Montreal said there could be a serious unemployment problem this winter.

"If business doesn't pick up in the next six months there will be trouble," Mr. Hynes said.

(The economies of the U. S. and Canada are so closely integrated that what happens to one is bound to happen to the other.)

The Phoenix Gazette, July 1, Washington (AP)—A large U. S. Air Force hospital in France, rushed to completion more than a year ago as a high priority project, is "growing up in weeds," a congressman says.

And the Air Force says it has no immediate plans to make use of the $5,708,500 hospital near Evreaux Air Force Base in Normandy.

The Evreaux structure was built as a 300-bed hospital. Enough equipment is stored there to use it as 1,000-bed emergency hospital.—

—Air Force officials, questioned about the hospital last month by an appropriations subcommittee, conceded the hospital has never been used.

—"This hospital" Laird said, "which was completed over a year ago, had all the equipment for 1,000 beds, operating equipment, barracks that had been constructed for nurses, for enlisted personnel; all of the construction work was completed over a year ago and the whole area was growing up in weeds."

(The next time you pay your income tax and groan, remember that over $40 billion of the budget goes for the defense of our country and the spending of it is delegated to the Pentagon. You can appreciate the 'absolute necessity' of having such things as an unused hospital in France even if you cannot get into one here, because you just built one over there.)

* * *

From an article in the East Hampton Star, a weekly published on Long Island, and appearing in the Congressional Record, May 13, page A4121, commented on the U2 incident: "Accurate intelligence is essential in the free world's struggle against communism. But as for getting it by flights over Russia, we can only recall the hubub a year or so ago, when it was revealed that a flight of geese, picked up by radar as they flew south over the Canadian arctic, almost set the wheels in motion for massive retaliation against the Soviets. If a flight of geese can set off the Americans, what does an actual aircraft do to the Russians? The stakes are too high for such risks."

(If this incident had been played up as it should have by our biased press, perhaps it might have awakened the public to the real risks of this so-called Cold War. There are too many chances taken that, by accident or psychotic design, the Panic Button will be pressed and civilization will be finished.)

Wall Street Journal, Aug. 8, Charleston, W. Va.—West Virginia has launched a "make work" program to provide minimal jobs for some of it's 70,000 unemployed persons, many of them coal miners displaced by mine mechanization and mergers.

The $3,900,000 State Temporary Economic Program (STEP), approved by the 1960 legislature, will provide about 1,200 dollar-an-hour jobs in West Virginia's recreation areas. The program includes 50 forestry and land reclamation projects in 40 of the state's counties.

Job interviews were conducted in the past week in 24 district offices of the State Employment Security Agency. For one project a $135,350 improvement program for Kanewah State Forest, near here, about 200 applicants for 18 jobs were interviewed by State Conservation Commission personnel. All of the applicants were former miners and once earned as much as $30 a day. Almost all were heads of families who had exhausted their 26-weeks unemployment compensation benefits and eagerly sought the $1 an hour jobs.

The program grants priority to heads of families for the jobs it creates. Those hired cannot work more than 1,200 hours in any one year.

(Reminiscent of the days of WPA.)

* * *

An abundance which can destroy not only the Price System but the world as well.

Excerpt from McLeans Magazine, July 30, page 46, by Ian Schlanders, "According to one source there is enough atom and hydrogen bombs on hand in the U. S. and Russia that, if figured in the power of TNT it would be equal to ten tons of it for every person on earth."

* * *

Anaheim Gazette, Anaheim, Calif., May 19—Twenty per cent of the income of Anaheim residents comes from the federal government.

According to the Tax Foundation the total annual income of Anaheim residents is $144,050,000 and of that $28,810,000 comes from the federal government in one form or another.

(There are other areas in which the proportion is even higher. Where defense plants are located to take advantage of lower taxes and abundant labor and there is little other industry, should the plant lose its contracts from the government the economy of the whole area would collapse.)

Labor is a large charge on production?

Federation News, July 30—Isn't it awful how those unions keep jacking up labor costs! It has reached the point that it takes $8.27 cents worth of labor to manufacture a $300 automatic washing machine!

That's right; when a family buys a $300 washing machine, only $8.27 goes to pay the men in the factory for manufacturing that machine. The other $290-odd is distributed amongst a large number of other people.

Advertising alone, for example, eats up $18.52 of the $300 purchasing price.

Recently, the Brookings Institution, an independent research agency in Washington, surveyed the component costs of a typical automatic washer retailing for $299.95. This study showed that this price, paid by the housewife, is split up as follows amongst the various people who have a hand in making and delivering it to the customer.

Highest single expense in manufacturing the washer is $74.87 for "direct material cost." After the manufacturer figures his overhead, taxes, sales and other costs, his total cost is $152.69. Add $3.28 for profit and you have the manufacturer's selling price of $155.97.

Now, the wholesaler has some expenses to meet after buying the washer from the factory. The wholesale price is, after a $4.19 profit is added to other costs, $178.30.

Finally, the washer is in the store window with a $299.95 price-tag on it. The retailer's profit is $14.12. The expense of retailing the appliance includes owners' and managers' salaries, office wages, salesmen's pay, advertising, servicemen's pay and expenses and delivery.

(Technocracy has been observing this trend of fewer man-hours per unit of production, for many years. As newer and more automatic processes are installed the man-hours per unit of production will approach zero. It has already reached this point in several producing factories. Labor should realize this and recognize the answers that Technocracy has provided.)

* * *

How to win friends and influence people!

Wall Street Journal, June 21—Foreign buyers complain about the poor quality of U. S. cotton, tobacco and flour.

The charges hurt some export sales, though the extent of the impact can't be precisely figured. A Federal study shows foreign importers and spinners are disappointed by the condition of U. S. cotton. Its poorly packaged, dirty and thus more expensive to use, foreign buyers say. Spinners said surface cleaning was necessary on 76% of U. S. bales. The foreigners rated American cotton among the "poorest packaged." Russian cotton was listed among the best.

Foreigners claim U. S. tobacco quality is slipping. Britons in particular sound warnings over maleic hydrazide, a chemical used to control growth of leaf-depleting "sucker" branches. The chemical is said to affect taste and burning quality. Canada and Rhodesia, other U. K. suppliers, have cut use of the chemical. Some buyers say U. S. leaf is poorer because of too close planting and use of too much fertilizer.

As for flour, changed European baking habits call for a higher-quality product. Some buyers find U. S. quality inconsistent even within the same grade. The Soviets deliver a consistent, state-controlled product.

* * *

Steel Labor, July, 1960—While U. S. Steel automates its equipment, it is denying that there will be fewer jobs in the industry.

Denials came shortly after David J. McDonald, president of the United Steelworkers, issued a statement noting that automation was costing the workers thousands of jobs each year.

In what appeared to be a rebuttal to the union president, Heath Larry, top manpower expert of U. S. Steel and a corporation vice president, denied flatly that automation is creating or will create unemployment problems.

Larry stated that fears caused by the installation of automated equipment are baseless. His statement was made as the company opened a new laboratory at Monroeville, Pa., to develop automated steelmaking processes.

The announced purpose of the new laboratory is to improve "quality and yield." Observers have translated this to mean greater output with fewer workers.

(It is a little hard to accept the corporate view in the light of the facts that the union membership of no only the Steel Workers, but United Mine Workers and the Brotherhood of Trainmen have lost thousands of dues-paying members because of automation.)

Everett Daily Herald, Everett, Wash., Aug. 24—What does this country have in financial reserves with which to finance another great emergency?

Foreign governments already have claims on almost the last ounce of our gold. Taxes are at the breaking point. Great cities are in financial distress. The federal debt is $290 billion, and it is very difficult for the Federal government to borrow any more real money from anybody.

Our total net debt, government, corporate and personal, was $846 billion last January 1st. It grew by $67 billions last year, and was the largest increase ever recorded in one year. All of this must be paid—either by borrowers or creditors! And contrary to poplar belief, personal debt is rising faster than income. . . .

. . . When World War I broke out, the national debt was only $2 billions; when the Great Depression started, it was $23 billions; when World War II started, it was $49 billions . . . (and now it as $290 billions!)

(Just as a snowball gathers mass once it gets going, just so debt grows and will have the same effect on our economy when it accumulates sufficient mass, a grand smash with the pieces flying in all directions.)

* * *

Saskatoon Star-Phoenix, Aug. 16, Washington (AP)—FBI Director J. Edgar Hoover Monday reported a "startling" increase in United States crime during first six months of 1960, as reflected in preliminary reports from police in cities of more than 25,000 population.

The report said these urban areas had a nine per cent increase as compared with the first half of 1959, with jumps in every major offense category.

For the six-months period, robberies were up 13 per cent, the highest increase. Burglaries followed closely with a 12 per cent rise, and larcenies involving sums over $50 rose eight per cent. Murders, the report showed, advanced six per cent and auto theft five per cent, and aggravated assault four per cent.

(As unemployment increases and men become desperate it is logical to expect a still greater increase in crime.)

Wall Street Journal, September 16—There's no unanimity about a business downturn; any slide seems more probable after election than before. But economists suffer major worries: Hesitant consumer buying, sluggish home building, the crimp in capital expansion plans. Most forecasters expect today's report will show a drop in industrial production for August, after several months of stability.

The economy is in a "settling" stage, sums up one theorist. But normal autumn gains in jobs, factory activity promise to stall off any general slump. Most recession forecasters look for a decline late this year or early next. Other economists insist there's no reason for a drop even in 1961. They argue inventories, capital spending already readjust without great economic grief.

(Reminds one of the doctor who was asked about his patient's chances. "I won't say he will get well, and I won't say he won't." He was rated as a good doctor. As pathologists of debt the economists should be so rated.)

* * *

New York Times, Atlantic City, June 21—The incoming president of the New Jersey Pharmaceutical Association said today that fierce competition in the nation's drug industry has lowered the health standards of the U. S. public.

This charge was made by Joseph W. Mittuch in an address to the NJPA's 90th annual convention in which he hit out at "dollar drugocracy."

Television doctors, television rigged programs, and the television scandal have been the consequences of fierce competition in the drug industry to overdose the American public with potentially harmful self medications in non-drug outlets throughout the nation," the speaker said. "Expansion of sales has been their objectives with complete disregard for human values."

Mr. Mittuch told the pharmacists that "it is self-evident that the only cure for the dollar drugocracy which exists in America is for Congress to investigate the entire field of self-medications which carry warnings and cautions on labels for limited use, and remove these potentially toxic products from the hands of unqualified laymen, whose sales are backed up by fantastic misleading advertising campaigns to bypass physicians and pharmacists.

"It is hypocricy," the speaker said, "on the one hand for the drug industry in a self-serving

manner to contend drugs are not ordinary products of commerce and then on the other hand seek to exploit the American public with self-medications which contain chemical ingredients of greater danger to human safety than nuclear fission fallout."

(It is a familiar practice in this Price System for crying 'foul' whenever profits are endangered. The whole medical profession is in the same Price System boat.)

* * *

Sacramento Bee, September 4, Washington (AP)—The American economy this Labor Day week-end is like an iceberg—serenely cold, beautiful and attractive on the surface.

But below the surface lurks danger.

Looking around this 1960 Labor Day holiday you will find prosperity. People are enjoying themselves; food and shelter are abundant and good; more people are employed at better wages than ever before.

The topside is deceptive.

Underneath, you find high unemployment, steadily rising living costs, increasing foreign competition to American made goods, factory production running at less than capacity, labor-management unrest, a declining Labor Union Movement. . . . . Probably the biggest unsolved problem on the industrial scene in America is the situation caused by the machine, the expedited process, or automation.

It is a boon in the sense that it enables greater production, more profits and higher wages. It is a bane in the sense that it eliminates jobs and therefore customers for the increased production.

Solving this machinery displacement of men needs to be accomplished if the nation is to melt much of the hidden, dangerous part of its economic iceberg.

(There is no doubt that this is a major problem. So far the best brains of the Price System have not been able to solve it and it is our prediction that there is no solution within the framework of the Price System. Technocracy does present a Scientific answer to this and many other problems.)

* * *

California Farmer, June 4—Surplus farm commodities with cost value of $2.6 billion were moved out of government inventories during 1959 fiscal year with more commodities disposed of through straight sales for dollars than any other way, according to CCC . . . investment in price support loans and inventories totaled $8.6 billion at end of 1959 fiscal year, an increase of $1.6 billion above year earlier . . . all CCC program operations combined showed net loss of $1 billion, $150 million less than previous year.

(Any Price System operator who continued to sell his goods for less than he paid for them would soon face bankruptcy and Uncle Sam is no exception.)

* * *

New Machine Tools Are Full-Fledged Production Centers

From Cleveland Press, Sept. 12, by Bertha Wellman — Most glamorous machines of the 1960 Machine Tool Exposition at the International Amphitheatre here (Chicago) here this week are the automated ones that change their own tools.

The "Milwaukee-Matic" built by Kearney and Trecker is one of them. It's so versatile you can't call it by a simple generic term like a lathe, drill or milling machine.

It's called a "production center." It can do milling, drilling, tapping, boring and reaming operations.

It works with one tool in use and 30 on a rotating drum on one side. When it finishes one cutting operation, it reaches up to the drum, picks out the tool for the next operation, inserts it into the machine spindle, and goes to work.

When it completes all the operations on one piece (it's told what to do by a punched tape) it moves the piece out. Then the next piece, which may be an entirely divergent job, moves into place.

The "Milwaukee-Matic" has a total of 961 different tools it recognizes and uses. At the show it is doing a job in 23 minutes that normally requires about an hour and 20 minutes.

Like all the glamour machines with fancy numerical controls, it's cost is high—$145,000.

But George K. Barger, Kearney & Trecker engineer, tells of a small company in California who recently spent its entire capital to buy one. The business was built around the "Milwaukee-Matic." Six months later the machine was paid for and the company was operating in the black. What the California group bought was a machine

shop in one machine. Kearney & Trecker have sold more numerically controlled machines than any other company in the world.

Lucas Machine Division of the New Britain Machine Co. also has a machine tool that changes its own tools. It's the Versa-Tronic which drills, bores, mills or does tapping jobs. Fosdick Machine Tool and Sunstrand Machine Tool also have such tools.

"Automatic numerical controls for machine tools are still costly," admits William C. Moog, president of Moog Servocontrols Inc. "But they can cut skilled labor time 80%, reduce tool wear, lessen lead time and increase precision."

He predicts a $100,000,000 market for numerical controls by 1965. It's a $12,000,000 market now, and there are some 40 systems to choose from.

Moog Servocontrols has just come up with a new numerical control system that uses no electronic gear but a pneumatic and hydraulic positioning system. It's designed to sell for $9,000, compared to $20,000 to $30,000 for an electronic system.

Another exhibitor, DeVlieg Machine Co., has a new simplified system for automating machine tools which the company says can boost productivity 500%.

The operator "merely dials into the machine the dimensions he reads from a shop print to produce three to five complicated metal parts in the time it formerly took a highly skilled machinist to produce one."

Wall Street Journal, August 4—An automated train may be put into operation this fall on the New York City subway system. An experimental train, minus a motorman and conductors, has been making trial runs over the system for several weeks. Initially, the electronically controlled train would be used as a shuttle between the Grand Central and Times Square stations in Manhattan.

* * *

Toronto Globe and Mail, June 27, Ottawa (CP)—Canadians were in debt to sales finance companies to the tune of $1,164,200,000 at the end of April, an increase of 14% over the corresponding period last year, the Dominion Bureau of Statistics said:

Amounts owing on consumer goods at April 30 were $804,100,000, up 1.7 per cent from a month earlier and 6 per cent from a year ago. Month-end balances on commercial goods were $350,-700,000, up slightly from the $350,100,000 at the end of March and up substantially from $262,-700,000 at the end of April last year.

Cash loans and installment credit held by small loan companies were estimated at $505,200,000 at the end of April. This compares with $493,-400,000 at the end of March and $418,000,000 at April 30, 1959.

(Also like their U. S. cousins across the border the Canadians have fallen for the same kind of gimmicks. Buy now, pay later, and it is catching up with them, too.)

'Molasses and Vinegar'

A prime example of the attitude too often displayed toward the hapless victims of present economic conditions is an item appearing in Los Angeles Mirror (Aug. 12, 1960).

It was titled, "Embittered Vet Told 'Be Thankful for U. S.'" The author, D. B. Gallagher. The correspondence follows:

We are quoting the following letter in detail so that our comments may be better understood.

"I just got thru reading your column about the veterans' pension. Why don't you investigate the way our money is being spent at City Hall or do you get a cut out of that money?

"You guys didn't seem to mind where they sent us during the war or how many of us got killed; all you thought about was the big shots.

"I am a veteran who contracted malaria while in Africa. I am still affected by it, but I am not drawing a pension.

"I am 51 and the plant where I work is closing down. What am I supposed to do? It will be hard for me to get a job at my age.

"You would do more good by spending more time getting people employment instead of kicking us veterans into the gutter. No wonder so many people are turning to communism."

'Let's comment on the last part of your letter first. Suppose we were all communists. Instead of writing a few words to try to change your mental picture, we'd have pulled on our knee-high boots and fur cap and headed down to headquarters.

'Before sunset you'd be in the hoosegow on slim rations or looking at the shootin' end of a few guns.

'In your present position, you can write just as you feel and still not worry about the sound of hobnailed shoes on the stairs in the middle of the night.

'Another little item: people with honest intentions are not afraid to sign their letters.

'In our job we get a lot of letters like yours, but we get a lot of others, too. One motherly old woman writes: "I am getting 33 dollars a month from Social Security. God bless a government that makes that possible."

'She is not eating caviar on that $33, but she doesn't sound like someone who's been kicked into the gutter.

'This writer is a veteran of World War I, who was overseas before the sheriff started looking for some of the first drafted boys. He has always figured he owes a debt of gratitude for the privilege of being an American. He was older than 51 later, and out of a job, but he found one without any assistance.

'The road has not always been smooth. But we have often remembered the words of Honest Abe Lincoln: "You will always be able to catch more flies with molasses than with vinegar."

'Try this, my friend. You'll feel better, and the smog won't look nearly so bad in your city.' (End quote.)

Mr. Gallagher should be reminded that economic conditions in the 1920s and those of today are by no means identical. We had not then entered the age of the robot machines. Warehouses were not overflowing with surplus commodities of every description, too plentiful and costly for our inadequate methods of distribution.

Our population has increased by 22 million since 1952, but employment has not increased proportionately. Unemployment in 1953 averaged 1,800,000. In this year 1960, unemployment averages 3,944,000—a gain of over 2 million.

The above veteran had legitimate cause for concern, as plants are actually closing down all over, thousands are walking the streets jobless. It looks like a bleak winter for them.

But what help did Mr. Gallagher offer? An underhand slap at the draftees, a pious rebuke and an unwarranted assumption of what would have befallen him in communistic society.

It is difficult to find any application for the quotation from Honest Abe to this case, unless it be that the vet asked for molasses (employment for vets). but Mr. G. passed him the vinegar instead, so all hope 'flies' out the window.

No man can live by patriotism alone. He must have food, clothing and shelter.

Provide these and treat citizens with respect, sir. Give them something to be patriotic for.

(By Henriette Phillips, Santaquin, Utah)

Leisure for All

Leisure is defined in the standard dictionary as: Freedom afforded by exemption from occupation or business; time free from employment.

In this year of 1960 there are some 4 million people, according to the Department of Labor, who are enjoying leisure. This figure is more than conservative because it ignores the millions of men and women over the age of say fifty who because of this age are no longer considered employable by the personnel departments of our industries. It also ignores the short work weeks of those who are supposed to be gainfully employed.

In all the past ages, the attainment of leisure has been the goal sought by all. Philosophers and ecclesiastics have taught that this was possible for all who practiced the tenets which they advanced, namely hard work, thrift, early to bed, early to rise, and that the system under which they lived would automatically reward them with this much sought leisure. In the early agrarian society, when those who were engaged in agriculture were forced to practice those tenets and also had large families to assist, there were just enough of them who did attain some measure of leisure in their old age to

act as examples for the rest of the people. It is well to note here that there is no record of either the philosophers or ecclesiastics having practiced what they so diligently taught.

When human labor was the sole means of producing any and all goods and services, it was essential to the continued existence of the human race that the process of applying human energy to production should provide leisure to only the few. And those few, who by clever chiseling had attained this leisure, were not about to endanger their position by teaching that there was no morality in work as such.

The leisured few have always misused such vacant time as they have possessed. They have, however, held that leisure was too precious a gift to be bestowed on the common herd. If they, the cultured class, found it so difficult to handle their leisure, they were sure that for those who had not attained their level of culture the difficulty would be overwhelming.

Now, however, a new force has been injected into society, and the effects are becoming more apparent each day. When our country was founded it took the efforts or produce of nineteen people on the farms of this country to enable one person to be able to live in a city or town, perhaps not at leisure but at least to carry on such trade as there was. The new force of technology applied to the means of production has so changed the picture that now one person on the farm is able to produce enough so that twenty-three people can live in the cities, again not at leisure but to carry on trade and build more technology. The progression of technology is such that we now have machines building other machines and taking over the functions of the human being in almost every field of endeavor.

The rate of change from hand tools to machines was at first relatively slow, and the flow lines of commerce took a long time to fill, so that the change did not disrupt the economy, except in brief recurrent spurts. Each machine required its operator and the demands for goods seemed insatiable so that there was a net gain in employment and the effects of the application of energy other than the human being was masked. In fact, the application of technology was extolled as the answer to all the problems of the human race. It would provide an abundance of goods, relieve man of toil and sweat, give him leisure.

The rate of change has increased so enormously in the past few years that all of the prophecies made are now coming true, but society has made no provision to absorb the impact. Among the first to be affected were the farmers, who at one time made up the bulk of the population and afforded the politicians with a plastic group of voters whom they could mold to any pattern. Next in line were the production workers in industry and mining. Within the last decade their province has been invaded by automatic machines and processes to such an extent that the words technological unemployment' have become household words. The newer business machines and computers are now invading the territory of the office workers and the technical people themselves and their effect is still to be assessed.

Still the political, business, and religious spokesmen attempt to reassure the people that all will come out well in the end if we but follow their precepts and work hard, vote for the right man or party, save our money. They ask us to accept more of the same medicine that made us ill in the first place. True to the prophecies, the machines are giving leisure, but who can afford it? An economy which is based on scarcity and human toil has nothing built into it to provide for such a contingency as leisure. Neither can it cope with abundance. The unions have been advocating shorter hours and larger pay for the workers but the very profit motive of our Price System defeats this as a solution. Business interests have resorted to credit to move the abundance of goods and right now they stand on a precipice over which they may plunge at any moment. The government has for the last few years been subsidizing the agricultural and business interests but the taxes which this entails is costing all of us more than we can stand indefinitely.

Now in the year 1960 and in the decade to follow, leisure becomes a problem of national importance. But with the concepts inherited from the past many people refuse to accept the probability that it will have to be extended to all. Few people believe they themselves will have trouble using their leisure wisely, but for all, 'Oh no.' And in the light of their Price System conditioning, seeing the antics of those who do have some leisure now, they could be right.

There is no program of adult of even adolescent leisure that is not exploited to the full for the benefit of the Price System. There are no dance halls, ball parks, theatres, swimming pools, boat landings, or other types of amusement or entertainment that are not operated for the purpose of

the maximum transfer of debt certificates or so as to assure a profitable return on investment that can exist under our system. Even the programs for adult education are being sabotaged for profit.

The employment of leisure hours today is largely a matter of what one can afford. Certainly, those who are unemployed can not afford much in the way of entertainment, neither can those who are attempting to live on old age pensions. And the young married couples who are just starting in to acquire a home, car and family must find it extremely difficult to squeeze in an occasional movie or a Sunday ride. The latter group, however, having been very thoroughly innoculated with the Price System virus of 'buy now, pay later' go blithely along getting deeper and deeper in debt until they lose all hope of ever seeing daylight. This process has led to an increase in broken homes, drink, dope, and even suicide.

The apologists and upholders of the Price System almost without exception put the blame for the behavior of these people upon the people themselves. Few realize that human behavior is a product of their environment, and given an environment such as this Price System the results are predictable. Only by changing the system itself and adopting one which is in accord with the conditions which exist on this continent can there be any real enjoyment of the leisure which is going to be forced upon us.

Technocracy's solution for the problems that face Americans is bound up with the conditions which do exist here. It is impossible to think of any solution unless enough of us agree on those conditions.

First and foremost is the fact that we here in America, with our natural resources, soil and climate, installed equipment and power, together with our technological knowledge, are able to produce an abundance for every man, woman and child on the entire North American continent. This is so apparent to any observing person that there is little use in belaboring the point. Let us also note that all Americans have been born and raised in a society which has been conditioned for generations to think in terms of scarcity, that is, to believe that man must earn his bread in the sweat of his brow and would never be able to produce as much as he could consume.

Again, Americans must face the fact that the work done on this continent is more than 98% done by energy other than that supplied by the human being.

There are other condiitons which exist and point to the necessity of change but these few are enough to develop the point we are making here.

Unless Americans and their leaders learn to think in terms of ebundance, we are headed for real trouble. We realize that this is not an easy accomplishment, all we are saying here is that it must be done, if we are to solve our problems and learn to live.

Once you achieve the ability to think in terms of abundance, you begin to see solutions to problems which before seemed insurmountable. Remember that you cannot sell an abundance. Steeped in the lore of scarcity, as our present leaders and population have been, there seems to be only the solutions offered by our leaders: Pay people on the farms to not produce crops; buy up the surpluses and let it rot; subsidize business so that they will operate factories so as to make jobs; ship the produce off the continent even if you have to give it away over there so as to maintain the market here, regardless of the fact that there are millions of people here at home who live in grossly substandard dwellings and exist on a subsistence diet; keep the populace stirred up so that they will hold still for the taxes necessary to support our so-called defense programs. Now, all of these actions make some kind of sense, if you think in terms of scarcity economics.

But when you think in terms of abundance, they make nonsense. Try thinking in terms of abundance and see where you arrive. Instead of storing a surplus and letting it rot, you first plan on how much is needed to supply the entire population and then devise a method to balance production and distribution, and distribute this to all the people. Remember, you cannot sell it, it's abundant. This distribution is not based upon the number of hours worked but is on the basis of your citizenship. Immediately, we hear you cry, that's not fair. It may not be fair according to scarcity standards but it is essential when you have abundance. With abundance, society has lost the ability to reward anyone with more of that which he already has in abundance.

Now, instead of subsidizing business to make jobs, let's think of using the machines to release us from as much work and drudgery as possible; operating them on a 24-hour balanced load basis, rearranging our work schedule so that all those people between the ages of 25 and 45 have some function to perform as their contribution to the

production and distribution of an abundance. It would only be necessary for those working to be on duty for four hours a day, four days a week, and one hundred and sixty-five days a year, in order to provide this abundance for all.

Now the problem of leisure arises again, even in a Technate. But now, thinking in terms of abundance and not profit, the problem becomes a little more manageable.

We have all the elements necessary for the people of this continent to accomplish anything they can visualize as desirable. Men, machines, power, land area and know-how.

With a balanced load on agriculture, producing only what is to be consumed by our own population, vast areas could be returned to nature and we could have recreation areas for hunting, fishing, picnicking, camping, etc. This, in conjunction with a continental hydrology plan which is yearly becoming more necessary, could so transform the lives and habits of many of us, that leisure could be a blessing. Again, for those who desired it, there could be unlimited educational facilities. Shops would be available for those who liked to create; theatres for amateurs and professionals; parks and playgrounds; football and baseball fields; ski lifts for those so minded; swimming pools and gymnasiums; boats and planes for those capable of using them. Anyone with imagination can think of dozens of other facilities which could be available, providing you think in terms of abundance and not price. Travel could be unlimited.

One of the prime worries faced by people today who have enforced leisure, is what would they do in case of sickness. Present day practices bankrupt many who thought they were fixed financially for life, and for those who now have no income it means death without the benefit of any care except that supplied by their immediate families. Abundance could mean this: A complete physical check-up twice a year, with the emphasis on maintaining health, hospitalization whenever needed, consultation with the best of experts available, and all of this, not because of what you have the ability to pay for but because you are a citizen of a country which is capable of providing these services. Learn to think Abundance.

A word of caution is in order for those people who are reading about Technocracy's proposals for the first time. In lectures and talks about these proposals, which of necessity can never be too comprehensive, just as a single article such as this cannot cover all phases, don't jump to the conclusion that the Technocrats are some kind of starry eyed dreamers and are talking Utopian plans and have not given thought to all the implications. We do know and recognize many of the side implications. Every proposal has been studied and, for each side effect which stems from one of the major changes necessary in our society, there has been worked out an answer which in terms of our present state of scientific knowledge, accords with the chemical, physical, psychological and biological necessities of the human beings being dealt with, namely the population of the North American Continent. In addition, the physical resources of this land area have been considered in all the planning which has been done, in order to assure us all of a stable and continuing economy for many years into the future.

In view of the precarious condition of our country and its economy and the world situation, you could not use your time to better advantage than in the study of Technocracy and joining with us in assuring all of us a better and saner life. Prepare to enjoy, not leisure in the conventional sense, but in freedom from toil with abundance.

—L. M. Proctor

Temple of the Thirteen Suns

Once upon a time, to the Temple of the Thirteen Suns came the rich and powerful chief Oomah the Third, who said to the goldsmith of the temple, Hansen L. Roschab . . . "I have much gold and am about to depart for a far country. Wilt keep this gold safely for me against my return a year hence? I will pay thee well."

The wily Hansen coughed loudly and covered his countenance with a cloth lest the rich Oomah the Third observe his joy to have this treasure in his possession. When he was calm and could look serious he said to Oomah . . . "It is a very great responsibility and risk but I will undertake it for a tithe which will be one shekel in every ten."

Then said Omah . . . "It is a deal." And forth-

(continued on page 25)

There Ought to be a Law

Dear Senator:

I see where Mr. Khrushchev came over here and tried to run the United Nations his way. Since he wasn't invited over here, Mr. Eisenhower snubbed him and wouldn't talk to him. Besides, Mr. Eisenhower is a military man and all Mr. Khrushchev wanted to talk about was peace and disarmament. I'm all for peace myself, except the company I work for does a lot of work for the government, and if there was disarmament some of the employees would lose their jobs and I might be one of them. I was going to suggest that you pass a law which would guarantee good jobs for everybody even if we had peace and disarmament; but, then, that would be like in Russia, so we can't have that. Also I was going to suggest that the government start a lot of big construction projects to give work to the people. But that would mean the workers would have to leave their homes and go where the government wanted them to, and that would be like in Russia, too. Then it occurred to me that the government should pay the living expenses of those who can't get work; but that would make America into a welfare state like Russia, so we can't have that.

There ought to be some law that will help keep the people prosperous and still allow them to be free and democratic. For a while I thought I had something good, a law that would tax people for clothes and dishes and everything else they have more than a year old, to encourage them to get rid of their old stuff and buy new things, which would make more jobs. That certainly is different from the Russian way, but somehow it seems to me it would be interfering too much with our liberties. Maybe you can think of something that would be good for the people and still not be like what the Russians have?

Sincerely yours,
BEETAL BRAYNE

P.S.: What happened to all those new jobs for more people at higher pay that were supposed to be provided by automation? We are getting more automation all the time, but people tell me jobs are getting harder to find anyway.

Let's Try Co-ordination

The national election is over. The people have spoken. WE can go back to our TV programs and our knitting for another 4 years. A new president soon will be in the White House.

So thinks the majority of the American public. The task of organization remains; selection of cabinet members and other personnel is proceeding. But will they be chosen with the thought in mind that each individual must be actually qualified by training and knowledge of the work in the department in which he or she is to function, or will it be considered as merely a way to reward their friends who supported them during the campaign? We shall soon see.

We are now in an age in which brains and skill, and intimate knowledge is an absolute necessity in handling the multiplicity of departments in the business of Government. It requires more than mere politicians to staff such a complicated organization, and produce a smooth-running, co-operative machine.

Recently, the owners of a very large supermarket and discount house in San Diego had a bright idea when they engaged a well-known psychologist and his staff to choose and assign the 200 employees who were to function in this enterprise. They were given carte blanche on a hitherto untried scale to demonstrate their usefulness in such a capacity. This complicated jig-saw puzzle of personality traits and aptitudes could, by consultations, analysis and interviews, place the right persons in the positions best suited to their capa-

bilities, thereby achieving a smooth operation. Some individuals were more likely to handle a supervisory position. Others could fit in and cooperate with leaders. Intelligence, interest, temperament, personality and orientation were all considered important in each case, particularly for the department managers or executives. They needed to be persons with lively imaginations, able to make quick decisions, be good teachers with a strong social service drive that would promote interest in the customers.

After selecting the controllers and the manager, the psychologist endeavored to see that each employee would fit into his particular role and be compatible with those around him. He avoided placing together two persons with high need for prestige and authority. Some people need to be more passive, or else trouble develops.

The checkers had to be calm and assured, and not panic when a long line of customers developed at their counters.

Stock shelvers need some esthetic sense and an ability to display the wares attractively.

The entire operation proved so satisfactory that very few re-adjustments had to be made later. Two executives exchanged jobs when their superiors decided each could do the other's job better. A supervisor had to be given a clerk's job, as strain of late hours and trouble at home caused personality clashes with his co-workers.

While some of the stockholders felt that the whole idea was a needless expense, the end result was so satisfactory that the same ideas are to be applied when the company opens another store. This market deals with all the usual super-market products, plus non-food items such as clothing, jewelry, appliances, cameras and plants. A gas station connected to it handles auto accessories, and does minor repairs.

The low rate of turnover, the compatibility of the employees is exceptional. The main office force was trained in 2 weeks time where "ordinarily it would have taken years," the controller testified.

This idea of fitting each person in his place is not new, but unfortunately hasn't been practiced often enough. In the world of sports, athletes naturally gravitate to their best positions in time. Tony Lazzeri, for instance, was a star performer at second base, but did his best work at third base, and attained even more popularity in that position. Ed Chapman did good work as second baseman but was found to excel as an outfielder, one of the best.

So it is with each of us. We are happiest and do our best work in jobs we like, or in congenial surroundings.

A recent newspaper item tells of a high school teacher who taught human biology and eugenics. His was not a required, but an elective, course; yet his classes were always full. The course isn't easy, he doesn't coddle his students, he expects the best of them; and they fight to get in. Says the teacher, "These young people are hungry for knowledge. There is no thrill to compare with seeing a student start to take hold and reach for an attainment to match his capabilities."

No doubt there is, under this present system, a great deal of potential talent that has never been utilized, and talents for teaching and for the sciences are especially in short supply. Countless would-be teachers and scientists never get the opportunity to develop their latent capabilities. It takes a lot of money and a lot of college to produce either one. Too many get neither, some get enough to allow them to function as typists or secretaries, but they are needed in their true category.

Tuition fees are becoming so burdensome that even fairly prosperous parents moan over the increasing cost of educating their youngsters.

A Federal education system is a must, if we are to compete with present day advances being made by rival countries, such as U.S.S.R., who are turning out far more teachers and scientists per capita than we are. But unfortunately, it is like pulling teeth to convince some congressmen of the urgency of the measures. Our so-called Free Enterprise system isn't functiong 100%. Why? It's at least 7000 years old—it's obsolete. It has become a sort of a sacred cow. It must be kept alive with shots, blood transfusions and various other medication. But even sacred cows can't live forever: some day they collapse from overwork.

So shaky indeed is our economy that if Ike had even shaken hands or beamed at Mr. K., the stock market would have taken a dive.

It is shaky because our unit of measurement, the dollar, is unstable. It expands or it shrinks at the least disturbance. No scientist would use so unreliable a unit of measurement.

To return to the proposition of having each person functioning in his most efficient position, it is doubtful if any of the political candidates for offices in the new regime will be the best material

obtainable for the jobs—or even mediocre material.

By comparison, in the Technate of the New America, every position will be occupied by persons well qualified to maintain the high level of performance in the place which he was chosen.

The whole organization will be operated by what we call functional sequences. These are categorized according to their line of work.

Some industrial functions will be those of transportation, communication, agriculture, and iron and steel.

The Service sequences will be Education, Health, Research. Social relations, Armed Forces, and Foreign Relations are other sequences. All will be co-ordinated to insure full cooperation and avoid needless duplication.

This process will automatically rule out most of the present tensions and frustrations in this dying system of square pegs in round holes, unequal distribution of privileges, its extremes of wealth and poverty.

Think this over, then join Technocracy. Get acquainted with our program. Get ready for a peaceful transition to an actual government of the people, by the people, and for the people.

by Henriette Phillips, Sec. 1-11140
Santaquin, Utah

Temple of Thirteen Suns

(Continued from Page 22)

with his slaves delivered many bags containing in all a thousand shekels of gold for which Hansen L. Roschab the goldsmith, gave the chief a parchment receipt acknowledging this deposit which contained the writing "payable to whomsoever." Thereupon the chief departed happily on his journey.

As soon as he was well out of the country, the shrewd Hansen called his confidential scribe and bade him thus . . . "Go thee now to the merchants whom I will tell thee of and secretly say to each that thy master hath a little gold for hire upon good security." And the servant departed swiftly.

Soon there came to him a great merchant who said . . . "Hansen, you old crook, I am in a jam for a few shekels of gold. Wilt lend me?" And Hansen replied . . . "Money is very tight these days, but it might be so arranged. What is thy need?" The merchant answered . . . "Two hundred shekels."

The said Hansen . . . "It is much money. What security couldst thou pledge for so great a sum?"

Then the merchant showed Hansen a writing of his possessions of merchandise to the amount of a thousand shekels. Hansen said . . . "It is not enough. Thou must also pledge thy dwelling and thy slaves and thy raiment." Whereupon the merchant, after much protest, pledged all his possessions, even to his innermost raiment. (So Hansen loaned him the money.)

Then said he to Hansen . . . "I have no place to store so much gold. Keep it safe for me and give me a writing which I may deliver to whomsoever I will." And Hansen did even so.

The next day came another merchant, and another, and still another, and to each Hansen loaned a portion of the gold of chief Oomah the Third, taking from each as security his entire possessions, including his innermost personal raiment, and gave to each a writing upon a parchment showing that each had on deposit the gold he had borrowed. And it came to pass that on the tenth day he had given parchment deposit writings for the whole of the thousand shekels; but he still had all the gold.

Hansen reflected much upon this curious state of affairs, and said to himself . . . "These birds know not how much gold I possess. They do not want the actual gold itself. What they really want is credit, some deposit writing which they may pass from hand to hand as money. I have one grand idea!"

On the next day came another merchant, and another, and still another, and to each Hansen showed the great store of gold of Oomah the Third, and to each he pretended to loan a portion, although he had previously loaned it all to the first ones who came.

And it came to pass that at the end of another ten days Hansen had pretended to loan to many more merchants and had given writings of deposit for a second thousand shekels, making 2,000 shekels in all, although he had only 1,000 shekels of Oomah the Third. And still he had all the gold!

Temple of Thirteen Suns

Whereupon Hansen reflected to himself . . . "What a leaden-pipe cinch. I wonder I did not think of this before. I can collect just as much usury from the phony deposit writings as for the genuine. Verily, I am a financial wizard."

Thereupon Hansen caused it to be noised about that he possessed a vast story of gold for hire, and many more merchants came to borrow, and to each Hansen delivered writings of deposit and collected generous usury and demanded pledges of all his possessions even unto his innermost raiment, until he had issued writings of deposit for 10,000 shekels and held mortgages on substantially the whole city.

Then went Hansen to the wise man of the city and said unto him . . . "Verily I have discovered the greatest racket of all time. I have learned the magic of making gold out of baloney; and if I can keep the formula secret for a few years I will collect a fortune that will make Solomon's treasury look like a second hand store. Tell me how I may keep secret this bonanza of mine for mine own profit."

Then said the wise man . . . "Look wise and say little and only upon matters afar off. Obtain the ear of the town crier. Engage him to spread the impression that money is a mysterious subject which no one understands but thee alone. Be friendly with the king's councilors and grant their favors that the king may smile upon thee."

And Hansen did as he was bid and collected much usury from his phony loan deposits which circulated as money. He built for himself a mansion, collected works of art, and clothed his wives and concubines with fine linen and jewels.

When his business had grown to many times its humble beginnings he took over the entire temple and by way of a sly joke called it the First National Bank, the same being from an obscure language and meaning "place of imaginary money."

And that is the reason that all banks today have great marble pillars and bronze doors, so that they may resemble outwardly as well as internally the "place of imaginary money" which Hansen L. Roschab builded upon the gold of Oomah the Third in the Temple of the Thirteen Suns.

This story was told by Mr. Robert Hemphill, former credit manager of the Federal Reserve Bank of Atlanta, Georgia, when he was called to testify at Congressional hearings on the cause of depressions in America. Who should know better?

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, JULY 2, 1946 AND JUNE 11, 1960 (74 STAT. 208) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF THE TECHNOCRAT, published quarterly at Los Angeles, California, for October 1, 1960.

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5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required by the act of June 11, 1960 to be included in all statements regardless of frequency of issue.) 2800.

Marjorie T. Clouse
(Signature of Business Manager)

Sworn to and subscribed before me this 7th day of October, 1960.

Bernard E. Pasch
Notary Public in and for said County
(SEAL)
(My commission expires January 17, 1961).

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Please renew your subscription when you are notified by CHQ of the expiration date.

The TECHNOCRAT STAFF

Leland Proctor.....Editor
Richard Burnett.....Assistant Editor
Kenneth Wolford.....Research Editor
Maysie Foster.....Circulation Manager
Marjorie T. Clouse.....Business Manager

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

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December, 1960 Whole No. 196

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PLAGUED WITH DILEMMA

The domestic problem here at home in the United States and Canada is one of how to distribute the ever-mounting abundance pouring out of our national production. Sufficient purchasing power cannot be created nationally by the total volume of salaries and wages to ensure the volume distribution of this abundance to the respective populations of these two great producing entities of North America. Washington and Ottawa, Wall Street and James Street are plagued with this dilemma. We are rushing headlong into more and more critical stages on the national scene.

A national or Continental solution to the social problems of this Continent is in order. There comes the trouble. No solution to the social problems of the United States and Canada is possible short of a fundamental redesign and reconstruction of our entire economic and political structures. Rather than face the social change implicit in such fundamental redesign, the business interests and political parties of United States and Canada in their psychotic fear of our social realism at home are conspiring to involve both countries in world-wide crusade to stop social change and make the world safe for American business.

—Howard Scott

— SECTION STAMP —

MAR. '61

The TECHNOCRAT

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The TECHNOCRAT

MARCH, 1961

Editorial

Technocracy's Function

The question has been asked frequently by persons who read our magazines, "Just what does Technocracy propose to do about it." 'It' being the conditions which prevail in our present political and economic life. Our literature is generally devoted to an analysis of these conditions and the reader is usually one who has been conditioned to think that solutions are possible only by a duly elected representative of the government, or, if he is religiously inclined, by a moralistic change in a majority of his fellow men.

It is certainly obvious to any observant person that the procedures of our present leaders, political, financial, military, diplomatic and religious, if allowed to continue, can lead only to the disaster of chaos.

In order to reach any sane solution of the problems facing the citizens of North America it is certainly necessary to understand the nature of our present economic and political system. As time has progressed both facets of the system have grown more complicated and as each new emergency arose with its consequent change imposed on the already complicated structure, it has become so unwieldy that now even specialists in government and finance are at a loss to thread the maze.

What then does Technocracy propose?

First you must understand what Technocracy is. It is really two things. The word itself stands for a body of thought. What the general public is perhaps more familiar with is the organization of Technocracy Inc. The organization is the vehicle designed to propagate the body of thought. Thus the organization, Technocracy Inc., is a research and educational organization whose primary objective is to determine the directions in which our present economic system is going, what the eventual destination of our society will be if the policies being used are followed, and then to show how the difficulty could be resolved if the scientific method were applied.

With any scientific problem the first requisite is to state the problem. Then in seeking a solution you do not start with any preconceived notion of the answer but collect all the facts available and then design a solution of this problem to fit the facts, discarding all irrelevant material.

If you will recognize the fact that Technocracy Inc. is a Research and Educational organization you will answer your own question as to what the Technocrats are going to do about it. The only thing the Technocrats can do and are doing is to point the way. The way is not political; that's the way we got in the mess. The way is not religious; that has been advocated for the past few thousand years and we are still the same obstinate, cantankerous self seekers we have always been.

Having been born, reared and lived in a society dominated by political, financial, religious and diplomatic leaders we have not been aware of what has really been the cause of most of our difficulties and also our blessings. All the various media of communication have been used by our leaders to obscure the real cause, and to appropriate to themselves any praise for the good while seeking scapegoats to bear the onus of failures.

To locate the cause, let's go back in history a little. At the time of the founding of our nation there were a few people living on the fringe of a vast virgin continent and far from the source of any manufactured goods. As they expanded toward the interior, means of transportation were a necessity and roads and canals were built, and the farther they penetrated the greater became the job. Likewise, communication over large distances became essential. People on the farms needed tools

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State of the Nation, Year 1961

The people of the United States have been promised a vigorous administration: and there has been sly implications that it would be a liberalized administration. It may, indeed, be vigorous; but it won't be liberal.

The Year 1961 enters the unfolding and irrevocable course of history, affording little in the way of serenity and comfort to the people of the United States and Canada, the leading nations in the Free World's struggle against social change. The past record of these two nations is nothing to be proud of; the present is clouded; and the future, based hopefully on illusions, is seen in shapes that surely will never become real.

Let us look at the present, now, and try to evaluate it in terms that are remote from the balance-sheet figures of the business executive; the polyanna dreams of economic promoters, the power-play maneuvers of the geo-politicians, the grafting of local officials, and the hopes and fears of the family households. We shall look at it as one who is very much interested in the future of the human race and human society, particularly on the North American Continent, but without devotion to their past traditions, institutions, values, or superstitions.

Perhaps the most interesting aspect of the present is the degree to which man has gained control over his environment; and the second most significant aspect is the way in which he has bungled that control.

Man can create an environment of his own: he can build his own shelters, with temperature and light regulators and air conditioning and furnish them with all sorts of clever conveniences, wherein comfort is almost never a matter of concern. Man has demonstrated his ability to free himself from the discomforts of heat and cold, to protect himself against the violence of storms, to rid himself of vermin, and to provide himself with every form of convenience and comfort. Such abodes could be provided for every inhabitant of the Continent that he might live in safety, comfort, and security from the rigors of the external environment; yet, most of the people are poorly housed, millions are living in squalor in unsafe, crowded, and uncomfortable dwellings, and they are being hounded by landlords or mortgagees and by utility companies for oppressive payments. Only a few of great wealth are able to dwell in the degree of comfort and convenience which could be the heritage of all.

High quality food in great variety can be raised in any quantity that the people of this Continent may require. Yet, many millions cannot afford the food of their choice; they must settle for something less tasty and often less nourishing because of the price. Many actually experience hunger. Many thousands get much of their food from garbage cans.

The income of families and individuals, on the average, is considerably higher now than it was before World War II, both in dollars and in purchasing power. Most incomes have kept ahead of inflationary trends that have been depreciating the dollar. Thus, the people feel more prosperous now than before the war; at least, they have more things and more expensive things. But their wants have increased, too, due in large part to the persistent efforts of business promoters to increase the desire for things. Hence, the economic burden is actually heavier. While there may be proportionally fewer distress cases than before the war, there are many more anxiety cases. Private debt has accelerated; a prosperity psychosis has encouraged the people to commit themselves heavily on future payments; and, now, the prospects for the future are tenuous, even for those in the middle income groups.

Many service and material costs have risen disproportionately to the general economic rise, among them, construction, health service (particularly psychiatric, hospital, and surgical), higher education, restaurant meals, personal service, repair service, and rents (including hotels and motels). The common types of food, clothing, trans-

portation, gadgetry, and entertainment are proportionately well within the general rise in incomes. Some luxury and prestige items have increased in cost more than proportionately with the general income increase, but not out of line with the rise in higher income levels. The persons hardest hit are those on fixed low incomes, such as retirement payments, insurance annuities, and savings (including government bonds). Some twenty years ago, when most provisions for retirement were being made by those now in the older age brackets, an income of one hundred dollars per month was considered adequate. But, to obtain the same anticipated standard of retirement now, a couple would require closer to three hundred dollars per month. This is not much of a drop in value of the dollar compared to the inflation in various other countries, but it is a distinct aggravation to those most affected.

The national income, stated in dollars, is higher now than ever before; but that does not tell the full story. The population is considerably greater, having increased by some 50,000,000 since 1940. During the same time, the dollar has declined to less than half its 1940 value. Also taxes have greatly increased all along the line; so, all in all, the people do not actually receive as large an income in purchasing power as is accredited to them in the national statistics.

The people are more dependent on money and the marketplace for survival now than ever before. Few of them are able to 'sit out' hard times on farms, as was commonly done in the past. They must now turn to society for their needs in time of distress; and society is poorly prepared to supply those needs.

Our national policies are dominated by reactionary old men who resent any benefits being accorded to the general citizenry of the nation, but who are eager to dispense largesse abroad to the most unsavory political characters. It is far easier for Congress to raise hundreds of millions of dollars for such fascist tyrants as Francisco Franco, Oliveira Salazar, Chiang Kai-shek, Ngo Dinh Diem, Ibn Saud, Konrad Adenauer, and the worst of the Latin American dictators than it is to get a few millions of dollars allocated for education, health, public housing, or relief for American citizens.

As a consequence, our prestige as an enlightened, humanitarian nation is at a very low ebb. Discerning foreigners despise us for our distorted social values. The fat caricature of a scowling Uncle Sam has become the symbol of arrogant greed to many millions of people.

The people at home are entering a period of economic distress, although most of them are uncertain as to the cause. There is a confusion of opinions as to what is causing the new recession and rapid climb in unemployment. These opinions hover around such factors as automation, foreign imports, curtailed 'defense' spending, government stinginess, high taxes, high prices, low wages and salaries, too much consumer savings, foreign competition in world markets, a do-nothing Congress, and Labor-Management disputes. But there is a general hope that this is a temporary situation — a downturn in the business cycle—and that prompt and proper government action will bring us out of it. The new administration has promised effective government action; but, not knowing what action to take other than emergency relief action, it is stalling for time. There are hints that it is contemplating an intensification of the Cold War — or something even more drastic along that line.

A new president and a new administration has taken office — Democratic, Roman Catholic, Georgetown oriented — carrying considerable debris from Harvard College and from diverse factions of the Democratic Party. The new president is well-versed in the manipulation of words, particularly in the direction of obscurantism and misdirection. Basically, he is impulsive, tactless, and extremely egoistic. His tactlessness crops up in his speeches where there is no occasion for it: The emphatic enunciation of personal hostility for James R. Hoffa; the proposal that the U. S. sponsor counter-revolution in Cuba; the references in his speeches to the Soviet Union as 'the enemy'; the proposal to 'liberate' Poland.

It is quite apparent that the new president and administration stand for these things: Continuation and exacerbation of the Cold War; increased spending for armaments and other preparations for war; promotion of counter-revolution in all leftist countries; friendship with, and support for fascism wherever it occurs; the appeasement of social unrest with handouts from the public treasury; opposition to any fundamental social change, even mildly socialistic change; staunch guardianship of the interests of investment capital; increased Vatican control of the United States toward the establishment of a World Order under Moral Law; more blood, sweat, and tears for the common people, more income for the big financial

institutions; and continued preparation for the re-election of the Kennedy clique in 1964.

The people of the United States have been promised a vigorous administration; and there has been a sly implication that it would be a liberalized administration. It may, indeed, be vigorous; but it won't be liberal. Rather, we can expect a quick-freeze of benevolent social change and the institution of a repressive McCarthyism that would make old Joe squirm with envy. This renewed McCarthyism may not have the blatant leadership of the McCarthyism of the Truman and Eisenhower administrations. Hence, it may be less easy to pin-point; but it will be in there undermining American civil liberties and, if anything, be more insidious and virulent in its penetrations and effects. Like the old McCarthyism, it will have a strong anti-semitic and anti-agnostic tendency.

Militarily, the United States is among the three greatest powers of the world — in manpower, prodigality of equipment, and 'defense' expenditures. It has the military capability (with the possible exception of morale) for 'rendering harmless' any political entity on earth, with two probable exceptions — the Soviet Union and China.

Our military potential is aided, abetted, and hamstrung by numerous alliances with alien governments and cliques who are economically desperate, politically bankrupt, wavering in their loyalty to us, and suspicious of our intentions concerning them. The most reliable of these (but still within the above category) is Canada, followed by Australia. With the exception of Canada, the 'allies' of the United States can be more regarded as deficits than assets.

The military strategy and capability of the United States are merely reflections of the futile political, economic, and ecclesiastical policies of the nation. Their main theoretical purposes are, in order of priority: To block any social shift to the left; to protect investment capital; to secure customers for American private enterprise; to gain access to natural resources; to capture souls for Christianity; and to 'liberate' people from collectivist patterns of living. In actual application, the primary objective in support of our theoretical principles is the military defeat of the Soviet Union and China.

The military organization is anything but potent in its internal construction and morale. The errors uncovered in the politico-business-military goulash by World War II operations have not been corrected. Then, American Business went on strike for nearly two years after America's entry into the war in order to wangle better war contracts from the government; after which, the placement of contracts and allocation of priorities became more important than the conduct of field operations. Then, there was so much rivalry and disunity among the elements of the Armed Forces that instances were reported, for example, of Airforce men in the Pacific applauding the shooting down of Navy planes (and vice versa) by the Japanese. Then, the men in the Armed Forces were demoralized by the knowledge that, back home, the citizens were more engaged in a scramble for war wages, war profits, and war racketeering than in an effort to win the war. Then, the men were conditioned to a form of social life which centered on the street corner with the drug store, the snack shoppe, the pin-ball machines, and the juke boxes. They had no background of toughness which a slugging army in the field required; consequently, many of them succumbed, physically and mentally, from the rigors of training, combat, and imprisonment. Then, we were engaged in a brutal war against a relatively small, impoverished, and resource deficient nation — against a population of alien race, religion, and culture; so, none of the ordinary compunctions (exhibited, for example, in fighting the white, Christian, 'civilized' Germans) were observed. With all these advantages on our side, with concentrated effort, aided by strong allies, and using the most fiendish weapons of warfare, and in the last phase assisted by a decisive knock-out blow in Manchuria by the Soviet Union, we were able to win the war in just a little under four years. The end of the war came as a sad blow to American Free Enterprise. Business enterprise then went on strike for another two years against full production of consumer goods for this Continent — in order to gyp the government out of tax rebates (at the government's suggestion).

None of those conditions have changed; if anything, they have worsened. Korea should have been an object lesson; but the top echelon learned nothing from it. It stimulated the economy and that is all that really mattered. Now that we are settling down into another economic depression, we are turning our attention toward other similar stimulations for the economy.

Our central foreign and internal policy is built around the proposition that the Soviet Union and China are our avowed enemies and that it is our

Christian Duty to bring to heel those nations which are alien to the American Way of Life — racially, religiously, economically, and politically. Toward this end, we are in a frantic scramble to 'close the missile gap' between the U. S. and the U.S.S.R. But, however desperate that 'need' may be, it must be conducted within the framework of our traditional Free Enterprise system. Thus, we find ourselves involved in contracts and sub-contracts with as many as 600 separate companies for the components of a single missile; and we wonder why the missile program is having so much trouble in getting off the ground. In fact, it is a tribute to the scientists and engineers involved that our missiles are able to function as well as they do.

In the effort to sell the American people on the idea of stepping up the Cold War, two diametrically opposite lines of propaganda are used: (1) The Soviets are away ahead of us in missile strength and capability; hence, we must make sacrifices and special effort to catch up; (2) we are equal to, if not stronger than, the Soviets in missile striking power; hence, we should extend our advantage. (At this writing, the Number 2 line is getting the play. But that may suffer a quick switch now that the Russians have just launched a piggy-back missile toward the Planet Venus.)

In academic, financial, political, and ecclesiastical circles, there is a general contempt for and fear of science and technology — 'technocracy' as these are disparagingly labeled. Science and technology are tolerated only because of the use that the 'humanities' can make of them in 'defense' programs and resource exploitation. A politician or an industrialist knows nothing of electronics, nucleonics, or rocketry; but that does not bother them, for they know they can 'buy' technical people who do understand for 'a dime a dozen.'

It is particularly feared that the men of skill and know-how will usurp the positions of policy-making from the men of superstition and skullduggery. It is with great apprehension among the reactionaries that an occasional technical man is placed, for example, on the Atomic Energy Commission. And it is deplored that certain other countries do not exercise 'proper restraint' in educating and promoting to positions of responsibility 'atheistic materialists.'

Among the guardians of Western Culture, the opinion prevails that the top social rewards should go to financial manipulators, smart dealers, legal finaglers, astute promoters, reactionary politicians, devout military commanders, dramatic and literary artists, big-shot gangsters, and conservative churchmen.

This de-emphasis of science and technology by the 'respectable' people of America has resulted in a relative decline in America's technological position in the world. Other nations are matching and exceeding in quality the best we can produce. . . . Our schools are better prepared to turn out salesmen, promoters, and divinity persons than they are prepared to produce scientists and engineers. . . . The United States has progressed this far in science and engineering mainly because business enterprise could use them in effecting more efficient production for profit. But, in this endeavor, business enterprise used as many or more engineers and technologists to sabotage quality as they used to develop improvements.

In high positions of governmental and industrial policy-making in the U. S., there are very few technically-trained people; special effort is made to keep them out. On the other hand, a scientist or technologist would be a traitor to his science or technology to accept such a position under the Price System; for, in it, he would not be able to function as a scientist or technologist — he would have to function as a politician, financier, or businessman. . . . In Soviet Russia and China, more technical people are elevated to high administrative positions — where they suffer similar handicaps and limitations. But, at least, when it comes to their deciding on technical matters, they are better prepared to appraise them in terms of physical reality and are less inclined to have their decisions dominated by balance-sheet economics.

The resource position of the United States is not sound; its use of many essential resources greatly exceeds its national production. Among the principal imports of minerals are these (in round figures, mostly based on 1959 imports): *Petroleum*, more than one million barrels per day; *iron ore*, some 35 million tons per year and going up; *bauxite*, nine million tons per year; *chromite*, 1.5 million tons per year; *asbestos*, 700,000 tons per year; *copper* (metal), 200,000 tons per year; *industrial diamonds*, 13 million carats per year. Other large imports include *lead*, *zinc*, *manganese*, *tin*, *tungsten*, *nickel*, and *mica*. Our atomic energy program is consuming huge quantities of *uranium ore* and various rare minerals. More than half the uranium is imported. If American private enterprise and government defense plants (including atomic energy plants) continue to operate as they have been (not allowing for anticipated accelera-

ting increase), the domestic supply of mineral resources will diminish rapidly and the demand for imports increase drastically. A stricture on our imports would be highly embarrassing; and, in time of emergency, could prove disastrous.

The petroleum situation is, perhaps, the most acute of all. With the number of motor vehicles passing the 75 million mark, and with an average of more than three million barrels of fuel oil being burned per day, the major part of which goes for space heating, we are already ahead of our domestic production by over a million barrels per day. We depend on access to foreign supplies to supplement our demands. The indications for the future are that we will have less petroleum available to us rather than more. It has been many years since any great new field has been found in the United States. (The modest discoveries in Alberta, Canada, have not been sufficient to supply Canada's demands.) Exploration has been going on frantically, with wells being drilled ever deeper, a few exceeding 20,000 feet in depth. The dry holes exceed a third of all wells drilled, and the latter include wells which are merely additions to those already present in known fields, where the striking of oil is a certainty.

Our dependence for resources on foreign sources is rendered even more vulnerable by social change that is arising in various parts of the world; wherein, the people are acquiring an interest in developing an industrial technology of their own and converting their own resources into finished products; and wherein, they are generating a resentment against the depletion of their resources by a foreign power.

But social unrest is not limited to foreign countries. We have plenty of it here on the North American Continent. This unrest is brought about by a complexity of factors, among which some of the principal ones are these: advanced technological capacity and high energy conversion, with a growing emphasis on automaticity; a consequent over-all decline in productive employment; rapidly increasing population; a heavy shift in population to urban centers and suburban sprawls; household economies based on greater desires for things, high costs, and an increasing dependence on extraneous operations; aggravated competition for jobs and social status; rising debt, taxes, and anxiety over 'security.'

The trend of the 'powers that be' is to direct this fear and uncertainty toward ideological fascism, characterized by racism, fanaticism, violence, and piety. There are also strongly anti-intellectual overtones and a repression of ideas and independent thinking. But this kind of repression, particularly on this Continent, can result only in a more severely explosive situation later on. However, the explosion probably will not come into full bloom in 1961; but, there will be plenty of warning burbles of it for those who can discern such things.

In the meantime, there will be much covert mulling and cogitation on the part of more and more people, as their hopes in this system are eroded away. There will be a growing irritation against the status quo and an inquiry into alternative concepts. Those with reactionary tendencies will, of course, veer toward some form of fascist 'plan.' The liberals will never quite decide what to support but will bog themselves down in interminable parliamentary-type discussion. The emotional radicals will have a look at communism.

Those with clearer vision and discernment will recognize that the problem is a physical one, not a philosophical one; that the solution lies in the realm of balancing a production of abundance with a distribution of abundance. To find that kind of a solution, stated in terms of programmed social operations, there is only one place to turn—to Technocracy. Therein lies the positive answer to the problem of this Continent.

—Wilton Ivie

Service Employee, Dec., 1960—From the lips of L. L. Colbert, president of Chrysler Corp. and of the Automobile Manufacturers Association, comes the news that new car expenses (to the consumer) in the United States total more than $47 billion, or more than the total spent on national defense. Last year $35.5 billion was spent on the purchase, upkeep, and fueling of private-owned passenger cars in the nation, out of a total of $314 billion spent for goods and services of all kinds. Colbert said the auto is on a par with pensions, social security payments, and agriculture price supports as an economic stabilizer.

(To the free wheeling, free enterpriser it is a matter of national pride that we Americans squander more on gadgets than anyone else on earth.)

A Philosopher Looks at Freedom

(Comments on an article in the Saturday Evening Post, December 10, 1960, *The Challenge of Being Free,* by Henry Merritt Wriston.)

This article is a flowery, conservative, and sterile dissertation on behalf of freedom and democracy. As one would expect from a quick perusal of the background of the author, it runs around in circles and comes to a fuzzy end among a confused flurry of generalized cliches about the glory of the individual.

Mr. Wriston has been a college president most of his life and has been appointed to many advisory and public relations missions, including chairmanship of President Eisenhower's Commission on National Goals. In other words, he is a smoothie. As such, he is an intellectual muddler and middle-of-the-roader. He speaks cunningly and glibly on both sides of most issues he raises; thus, he becomes all things to all men. In his declamations of liberty, dignity, and democracy, he makes due obeisance to the Declaration of Independence, the Constitution, and God; he engages in a modest amount of appropriate name-dropping — Aristotle, Lincoln, Dostoevsky, Walt Whitman. No doubt, he would be welcome as a speaker at most organizational gatherings in the nation, ranging from those of Norman Thomas socialists to those of the American Legion. Having occupied an executive position most of his life, enjoying the higher privileges, opportunities, and rewards of social largesse, Mr. Wriston is content to pose as a devotee of liberalism, democracy, and dignity for the human individual. He is morbidly antagonistic to the application of science to the social order, preferring the innocuous and 'safe' approach of moralistic philosophy. Thus, he identifies himself, in the field of erudite expression, with the 'humanities' and in opposition to the 'materialism' of science and technology.

In the article, the author first ponders the problem of the individual's finding the value of liberty and personal dignity in a society that permits extreme wealth on the one hand and extreme poverty on the other; and he brazenly concludes that liberty and dignity are really a state of mind within the individual, whether he be free and wealthy or be suffering extreme poverty or even imprisonment; that physical circumstance is of little moment. He summarizes this part of the discussion with this philosophical flourish: 'Dignity does not derive from a man's economic situation, nor from his vocation. . . . It rests exclusively upon the lively faith that individuals are beings of infinite value.' (Meaning what?)

The author intermingles his discussion of liberty and dignity with a contemplation of the role that a democratic government should play in controlling the lives of the individuals. In this phase of the rhetorical goulash, he is indecisive, wavering on a wide band somewhere between totalitarian regimentation on the one side and individual anarchy on the other. He is all for the individual's having free choice and unlimited opportunity for personal development; except, when such development of the individual should 'trespass upon other's rights to life, liberty, and the pursuit of happiness.'

Mr. Wriston can't stand governmental paternalism; but, nevertheless, he makes various exceptions to this position as he progresses with the article. It is all right, in his opinion, for the government to impose a social security tax on the individual, because that forces him to pay his way in society in case of adversity and 'shields society from his possible dependence.' In other words, it is all right for society to look after the individual at his own expense, particularly if it helps preserve the status quo under which he is a free and dignified individual. The author also thinks that the individual should be educated to his fullest potentials (through compulsory school attendance) to enable him to take fuller advantage of his freedom, also to make him a more valuable tool in the society — as, for example, in 'defense' assignments.

While the individual, according to Mr. Wriston, should be accorded the right to develop to his highest potential, physically, mentally, and morally, he should also be persuaded to develop his skills to their highest level in order that he may be a more useful citizen to the society; that he may lengthen his period of employment; that he may

overcome the social waste of people working below their highest capacity. 'The first way to expand prosperity and to attain maximum economic growth is through the building of a larger reservoir of people with higher competence,' he says. This training for useful function should also include women, who, he things, are not being properly trained for manpower needs; they should unite family life and obligations with a career. He makes no attempt to translate this emphasis on manpower needs into practical specifications related to modern technological techniques.

The author cautiously evades any suggestion that society take an active hand in providing economic well-being to the individual. Rather, he retreats under the prevailing reactionary phobia of 'communistic materialism' whenever he nears that subject. 'Economic determination belongs to the Communists; let them have it,' he says. He does not deplore economic inequality, a position which is easy to take by one who is safely in the upper brackets — 'I'm all right, Jack.'

But he does not hold fully to this view; for, in reference to contagious diseases, he says: 'In the closely intercommunicating world of today, infections fly across land and sea; the protection of the individual is not only local or even a national concern. It is an international obligation of urgent importance.' (But he stops short of even vaguely suggesting that similar protection against hunger and poverty be considered.)

Mr. Wriston considers, as a social ideal, that Negroes be regarded as people by our society, but primarily in the sense that they be permitted (in some vague, unspecified manner) to rise to the full heights of their individual expression. Economic well-being of Negroes, essential to health and longevity, however, need not be considered directly by the society; for, he opines, that will come about as a consequence of proper social recognition. Moreover, society cannot afford the loss in productivity resulting from the Negro's inability to apply himself to his fullest capacity, due to lack of education, health, and morals — a direct consequence of the 'curtailment of unalienable rights.' Thus, he continues to reveal his devotion to the morality of toil and exposes his complete disregard for the implications of technological automaticity.

Mr. Wriston reveals his abhorrence of the technical aspects of society and his devotion to moralistic philosophy in the following unsemantic discussion on Technocracy:

'In the mood stimulated by these shattering events (World Wars I and II and the Great Depression), human misery came to seem more terrible than human freedom seemed beautiful. The individual was lowered in the scale of values, and society (was) exalted. For a brief time technocracy — the ultimate in materialistic determinism — had a great vogue and was offered as a 'modern' substitute for liberty under democracy.

'More generally, men were referred to as 'social units.' A report to the President of the United States said that 'the development of social technology' was 'imperative.' There were demands in influential places for 'social engineering.' Those are mechanistic concepts; they deal with individuals not as unique beings of diverse gifts and infinite worth, but as structural units to be built into a planned society.

'Fortunately we hear less of this subversive doctrine today. . . .'

The author's morbid fear of 'technocracy' is again exhibited, later on in the article, when he states: 'The educative process should never be distorted by the nation's 'need' for scientists, or engineers, or doctors or any other specific profession or skill. . . . The nation needs philosophers, poets, artists, critics and a thousand other sorts of people. . . .' (We note that *need* for technical people is placed in quotes, but not so the *need* for philosophers and such.)

The foregoing implies that the author is rabidly opposed to any social planning for purposes of providing food, clothing, shelter, transportation, health, and numerous other products and services to the human individual. But we would predict that he would cry out in grief and frustration if the 'technocratically' organized personnel of the telephone, power, and transportation systems, among others, should all suddenly decide to be truly 'free' men and women and turn their attention to higher endeavors, such as writing poetry, and refuse to let themselves be regimented to provide services to such a pompous hypocrite as one Henry Merritt Wriston.

Mr. Wriston deplores the encroachment of organizations on the freedom of the individual, be they political, economic (corporate or labor), religious, educational, or social. They tend to narrow the individual into a restrictive mold. But, for some undisclosed reason, he exempts with silence that most restrictive organization of all— the military. One would think from this part of his discussion that he is an anarcho-syndicalist, but

he probably would not appreciate that classification. He fails to distinguish between the organization of human beings for functional achievement and for arbitrary regulatory purposes. Although he does not say so precisely, one gathers the impression that he resents the stern restrictions placed upon individuals by 'stubborn and irreducible facts'; rather, that he prefers to 'operate' in a world of opinion and fantasy, where the 'mind' of man is free of all fetters.

Some of Mr. Wriston's fancy-free opinions show up in selected paragraphs and sentences appearing throughout the article:

He argues that each individual should be permitted to develop as an individual to his highest potential *under the democratic process.* Later on, it is revealed what this process entails: 'Democracy, to be viable, requires a large measure of concensus.' In other words, democracy requires that opinion be organized and applied *en bloc.*

His fear of a strong social organization is disclosed in this sentence: 'The urgent need is for widely distributed, not overcentralized, leadership.'

In discussing education, he says: 'The effectiveness of democracy . . . rest not alone upon knowledge and judgment, but upon character.' 'Character,' he reminds us, is 'culture' derived from moral maturity and aesthetic appreciation. Culture, rather than knowledge or training, should be the goal of education, according to him. Free individuals need democracy and democracy needs free individuals. (If this type of sermonizing constitutes the Wisdom of our society, no wonder it is in the mess we now find it.)

His skill at propaganda is displayed in this remark: 'The amazing economic recovery of Western Germany illustrates that dedication, skill and hard work still make progress possible.' He might have included in those ingredients modern technology, dictatorial political control, and billions of American dollars. Next, he might explain how East Germany and Czechoslovakia have achieved similar recovery.

At another place he holds forth with the proposition that the individual should be permitted to develop his individual life in his own way. 'Nothing whatever should curb his right to life — as long, as full, as rich as life can be. Liberty is his because of his manhood.' Then, he defeats this whole proposition by ending with: 'In liberty the infinite richness of his contribution to the life of others is facilitated.' (The individual should be kept free, this seems to say, so that he can help mold the life of others.)

Mr. Wriston reaches his highest peak in mixed-up gobbledegook in the following paragraph near the end of the article: 'If we make effective self-discipline in freedom the chief educational goal of the '60's, we shall bring a fresh perspective to all our tasks. It would be a clean break with the materialistic determinism of the Soviets. It would establish the moral stance of the United States before the world. It would give us a vastly more efficient society.'

Technocracy, in spite of Mr. Wriston's worries to the contrary, would provide the individual with the social and physical basis for the utmost in freedom, particularly in the realm of subjective preference, where a wide variety of choices is open to him. But we recognize that in the realm of scientific research and social functioning, one must be governed by facts and the operating characteristics of the physical mechanism which works to achieve the production and distribution of goods and services. Technocracy would provide a satisfactory physical environment in which the individual may develop his freedom of expression.

Philosophy, poetry, and such, make up the fluff of society. They are useful only to titillate the subjective sensibilities of those people who are susceptible to them. But, insofar as the essential features of social affairs are concerned, they have no intrinsic function.

—Techno Critic

Wall Street Journal—The U. S. and Canada, by 1980, will need twice the amount of industrial raw materials they now consume and will have to seek some of them outside North America. This prediction was released by a Canadian-American committee of 60 trade experts. "Great increases" in raw materials shipments between the U. S. and Canada are foreseen, as well as imports from outside North America of chromite, manganese, tungsten, alumina and bauxite, tin and fluorspar.

(Not satisfied with looting the irreplaceable natural resources of this continent the North American price system operators look forward to leaching the rest of the world.)

Three Myths of Automation

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The term "Automation" is only a little more than ten years old. During the time it has been in use, it has seemed to be a word in search of a meaning. Some people have used it to cover all kinds of technological change. Others have applied it to one limited kind of technique, such as mechanical transfer of parts from one operation to another. I believe that any useful definition of the term must be broad enough to identify the basic concepts involved, and limited to distinguish it from mechanization in general. My own definition is as follows: "Automation is mechanization of thought, sensory and control processes." This definition is intended to reflect the fact that scientists have recently developed a new theoretical framework concerning communication, control and even thought. The definition also reflects the fact that automation is merely one aspect of mechanization, though a profoundly significant one.

Some people have argued that there is really nothing new in automation. Somebody has said that the cave man's flint hatchet was the first example of automation. There is a grain of truth in such assertions. An element of automation, or automatic control, exists in all forms of mechanization, even a simple hand tool. But this should not be permitted to obscure the fact that there has been a substantial and rapid increase in the element of automatic control in much recent mechanization. We have developed a host of mechanical. electrical, hydraulic and other gadgets that have enormously expanded the capabilities of machines. The true significance of automation lies in the applicability of its principles and techniques to almost every field of human endeavor.

Perhaps the best known examples of automation are the giant "transfer machines" of the automobile manufacturers, which can perform scores of operations on a part such as an engine block without human assistance (except for occasional tool changes or repairs). Actually, these machines represent a rather elementary type of automation. Electronic computers are a more significant development. There is now an oil refinery in Texas which is completely controlled by a giant computer — and it does a much better job than the human operators whom it replaced. Two computer-controlled chemical plants are under construction. Computers are revolutionizing the bookkeeping end of banking; they are also making great strides in the field of inventory control and production scheduling. More and more of the processing of policies and claims in the insurance business is being handled by computers. The Air Force has just announced that it has a computer which is the key component of a machine that translates Russian into English. It now translates forty words per minute, but within a year its capacity is expected to be 2,400 words per minute.

Most metal working industries are likely to be affected by a new technique which teams computers and mechanical or electronic control devices. This technique is called "numerical control." It works roughly this way: technicians take engineering drawings or even rough sketches and using a special "computer language" feed information into the computer. The computer makes the necessary calculations and works out detailed instructions which are recorded on tape or punch cards. Then the tape or cards are simply plugged into a control unit on a machine tool, and the rest of the operation is completely automatic. The control unit can even inspect the work of the machine tool and make instantaneous corrections while the work is in process. The basic principle is remotely comparable to the old fashioned player piano.

The significance of numerical control lies in its ability to reduce machine time and increase quality, especially on complex operations. The cost of one large aircraft part was reduced from $18,500 per unit by conventional methods to $1,950 by numerical control. The machining time on a part used in electrical manufacturing was reduced from 60 hours to 45 minutes. and the rejection rate dropped from 50 per cent with human operators to 2 per cent with numerical control. This past summer U. S. Steel opened a new rolling mill in Chicago which utilizes numerical-control techniques, and another large mill of this kind is now under construction in Detroit. One authority has estimated that numerical control will be found feasible on 90 per cent of present-day metal working operations.

We are just beginning to explore the capabilities of computers. Experimental computers have been trained to compose original music, to play chess and checkers. The checkers experiment was especially significant. because the computer was

also programmed to learn from experience — the more games it played the better it got, until finally it was unbeatable. These examples could be multiplied. Computers have many advantages over mere humans, of course: they never tire, never forget and work thousands of times as fast as men; most important, what one computer has "learned" can be "taught" in many cases to another computer almost instantaneously and at virtually no cost. Thus, the initial programming of a computer for complex decision making tasks may be very costly and time consuming but replication of that programming may be rapid and inexpensive. This contrasts with the time and cost (as well as travail) involved in transferring knowledge from one human being to another.

At the risk of considerable over-simplification, one might say that mechanization has involved three main strands, each related to the other. One of them has been the substitution of mechanical power for the muscle power of men or animals (for examples: steam engines and electric motors). Another strand has been specialization — the breaking down of work processes into smaller and smaller fragments to improve the efficiency of men and machines (history may record that automobile assembly lines represented the peak of this development). The third strand is automation, the development of mechanical control and thought. The introduction of mechanical power sources greatly increased productivity, and in the long run it probably increased the value of human labor because men began to devote more of their time to the function of control (although sharing it to a slight degree with machines). Further mechanization through specialization, as on the assembly line, forced men to share more of their control functions with machines; on many jobs, the man became simply the attendant of the machine.

Automation means the substitution of mechanical brains for human brains. The enormous gains in output and accuracy yielded by most types of automation are achieved largely by freeing machines from the limitations previously imposed by the feeble, sluggish brains and perceptions of men. I do not imply that any computer today is the overall equal of an average human brain. Many subtle aspects of judgment and creativity will always distinguish most men from machines. But on certain specialized mental tasks, machines can tremendously outperform men. A computer has been designed which can perform a hundred billion arithmetic computations per day.

Despite the millions of words that have been spoken and written about automation in the last ten years, there is little solid information available on its ultimate social and economic effects. However, we do know enough to question some widely-held assumptions. Indeed, some of the potential benefits of automation may be endangered if we fail to investigate with care the validity of some beliefs which a great many people regard as little less than gospel truth. In this regard, we are now sitting complacently behind a Maginot Line of nineteenth-century ideas.

The first notion which we should re-examine is that inventions and other mechanical improvements always create more jobs than they eliminate. Some people seem to believe that there is a great natural law which guarantees that any man who loses his job to a machine will always find another job elsewhere if he only tries. This belief has been encouraged, no doubt, by the findings in numerous studies of the installation of automated equipment. Almost all these studies show no resultant loss of jobs. Many people also cite the example of the automobile industry in the first half of this century; it pioneered many labor-saving improvements, but simultaneously expanded its employment enormously. The theory of automatic reabsorption of displaced labor obviously has some degree of validity. But I doubt that even its original nineteenth-century proponents would argue that it holds true in all times, all places and all circumstances. They would certainly concede that it is a short-run, not a long-run theory. And they would concede that the theory assumes certain important conditions—for example, mobility of labor, downward price flexibility and full employment in the economy generally.

The fact is that a very substantial part of the cost savings from automation usually results from displacement of labor in one form or another. It is to the credit of American management and labor that they have cooperated, in most of the specific cases studied, to find other jobs in the same company for those replaced by machines. Normal employment turnover has quite frequently made it unnecessary to lay anyone off. But, from the standpoint of society, the net result may be simply to shift the burden of unemployment from the man who already had a job with the company to the man who doesn't get hired. Or the burden may fall on the man who gets laid off in the next recession and never gets called back.

It is true that in a strong growth industry

(like the automobile industry in 1900-1950), rising demand for its products may more than offset the labor-saving effects of mechanization. But at present we seem to have a shortage of major growth industries. Blue-collar employment in manufacturing is actually falling, although output is rising — due in large measure to automation. It is significant that much more than a proportionate share of the hard-core unemployment in our "distressed areas" is composed of workers whose last job was in manufacturing. Another difficulty is that the mobility of an unemployed worker is severely limited. Most important "long run" adjustments may take a lifetime. People must live in the short run as well as in the economist's "long run."

The second notion that I question is that automation will come slowly. It is true that more than a hundred years was needed for the steam engine to be widely adopted in industry. It took more than fifty years for the electric power to come into general use. Some present-day computer installations require years of planning. Furthermore, business and industry will not scrap many billions dollars worth of existing equipment overnight. Even if there were no incentive to do so, replacements would be limited by the ability of the company to produce the new equipment.

But let's look at the other side of the picture. The cost of automation equipment like computers is being constantly reduced, and the number produced is being expanded. The value of shipments of automatic data-processing equipment rose from nothing in 1950 to $400 million in 1960. There do not appear to be any insuperable shortages of manpower or materials which would stand in the way of a large expansion of output of automation equipment over the next few years if the demand for it rises. Such demand may be spurred by powerful incentives. One aircraft manufacturer reports that a large new machine which operates on principles of numerical controls, and which costs $500,000, pays for itself in about ninety days. The savings do not have to be as dramatic as that to induce businessmen to replace perfectly good capital equipment with the latest thing. Witness the plight of the airlines, which are spending billions of dollars to buy jet aircraft even though they have hundreds of older propeller-driven planes which are still completely airworthy.

The venturesome competitor who invests in the newest equipment may be able to achieve such great savings and to attract customers so powerfully that other firms in the industry will be compelled to invest in the same equipment simply in order to remain in business. Something like this appears to have happened in the automobile industry. Even the smallest company has spent millions of dollars on automation equipment. In an automobile plant, an engine line that is five years old is likely to be obsolete from the competitive standpoint. In some industries, the progress of automation may be extremely slow; but we cannot exclude the possibility that it will progress rapidly in others. For example, mechanized bookkeeping is spreading quite rapidly throughout the banking world.

The matter of speed is a crucial factor in measuring impact. The introduction of the steam engine had many disruptive side effects; imagine the impact of its use had it become general in 20 years instead of in a hundred. Every labor-saving invention necessitates some redistribution of the labor force. The labor market, on which we rely for such redistribution, tends to work less and less effectively as larger and larger numbers of people are involved. Millions of excess workers have been moved out of agriculture in the past few decades, but the farm-labor supply is still greatly in excess of what is really needed to produce food and fiber for our nation. The point is that our present institutional framework is much better able to handle change which comes slowly than that which comes rapidly. It is of great importance, therefore, that we try to judge how rapidly automation is moving; too little effort of this kind is being made today.

The third (and final) notion that must be critically re-examined is that automation will require massive upgrading of the labor force. Case studies made thus far cast considerable doubt on this notion. Job requirements have increased in some instances, but usually so little that in-plant training programs of brief duration have met the need. The need for certain types of skilled maintenance workers has increased in some automated plants, though not all. It is true that completely unskilled jobs usually decline considerably when a plant or office is automated. But, generally speaking, the jobs that remain do not seem to have a markedly higher skill content. In fact, we have made so much progress in developing "reliable complexity," as Vannevar Bush terms it, that skill content is actually reduced in a surprisingly large number of cases. Most of us agree, I think, that a 1960 automobile is a more complicated machine than one of thirty years ago; but (traffic hazards

aside) the 1930 car probably required substantially more skill of the driver than today's car does.

Actually, we have a very limited basis as yet for judging the extent to which upgrading or downgrading of the labor force will result from automation. We are getting some ideas as to what is happening to particular jobs when operations are automated. We know next to nothing about what happens to the people who are displaced. The man who loses a semi-skilled factory job may end up in a low-skilled service job. Engineers have been scarce in recent years, but computers are rapidly developing the ability to perform some of their work. Numerical control may rapidly render obsolete the skills of today's highly-paid craftsmen. Many of the thousands of junior executives that our collegiate schools of business are grinding out these days may in a few years find their jobs being taken over by decision-making machines. Indeed, one of the students of automation is willing to assume that in ten years we will have the technical capability of building machines to perform any function that is performed by men today.

There is no doubt economic feasibility will retard the realization of this technical capability. But it would be a mistake to think that it is only the low-skilled jobs that can be mechanized. It may be more realistic to say that the jobs most likely to resist automation are those that are simply not worth automating. The implications of these possibilities for education, and for the frequently heard recommendation that we embark upon a massive "retraining" program to solve unemployment, are so obvious that they need not be detailed.

In sum, then, automation is a special kind of mechanization which is rapidly growing in importance. Its principles are applicable to an enormous variety of gainful activities. Still, we do not yet have a firm basis for anticipating what its ultimate impact will be. We do not know how heavily our labor markets will be burdened with the task of redistributing displaced workers. We do not know what new skills may be needed tomorrow, or what skills will be completely obsolete. These are questions of the greatest importance to those responsible for employment and manpower planning.

The search for answers is probably a task beyond the means of single individuals, or even university research institutes. Most large foundations are so tradition-bound that it is extremely difficult to interest them in problems so new and urgent. The Bureau of Labor Statistics has made some excellent case studies in the field, but it has neither the resources nor the freedom to tackle some of the crucial (and controversial) questions affecting public policy. A few companies and unions have made a start toward studying automation problems within their own jurisdictions, and more should be encouraged to do so; but they can hardly be expected to study the effects of automation on the economy and the labor force as a whole.

That larger task must be the responsibility of government. One of the high priority items on the agenda of the Kennedy Administration should be the establishment of a national automation commission. One assignment of this commission should be to stimulate private groups—companies, unions, research institutes, and universities — to undertake their own detailed studies. More important, such a commission should utilize the resources of the federal government to make an analysis of the over-all impact of automation on our society.

Never before in human history has technological change been as rapid and pervasive as in our generation. We must begin to close the gap between our ability to develop new technologies and our understanding of their consequences.

—Charles C. Killingsworth

EDITOR'S COMMENT:

As brought out in the above article, automation is an application of the concept of automaticity to mechanized processing. Its primary objectives are: reduced unit cost of production; higher rate of production; more reliability in production. Automation highlights the fact that North America can produce an abundance of almost anything it requires. The other side of the problem — the one which the Seventeenth Century thinking, which dominates our national and international leaders, refuses to consider — is that of distribution. Distribution of abundance is even simpler than production of abundance. What stands in the way are the concepts of property rights, class stratification of human beings, and the morality of toil — all outmoded superstitions. With these out of the way, the process of distribution would become

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RESEARCH BULLETIN

SOMETIMES WE WONDER, TOO

Toronto Globe and Mail, Nov. 11—When the results of the U. S. election became official, President Eisenhower wired the "immature, incapable" President-elect congratulations on his victory; who, in turn, replied to the President of the Administration which had "brought the prestige of the United States to a new low" expressing the hope that it would be possible to draw on the President's long years of experience in his service to the country. Yet people wonder why Mr. Khrushchev pounds the desk with his shoe.—C. W. Morris, on the editorial page.

* * *

TECHNOLOGY IS NO RESPECTOR OF NATIONAL BOUNDARIES

Paris—France's most highly automatic automobile factory, the state-owned Renault works, was disclosed recently to have used an electronic brain to select 3,000 workers for dismissal in a system described by a French newspaper as "impeccable but implacable."

Of this number 1930 were discharged.

For the individualistic French, this is the electronic age out of control. But the trade unions confronted with the layoffs which took effect this week, have accepted the situation as one more problem in the whole complex of troubles which the automobile industry everywhere is having.

The unions are not happy about machine age firings, but at least they take some heart in the fact that this impeccable, implacable method rules out politics.

In mid-October, the Renault executives decided that a cutback in production was necessary. The Renault factories are among the most modern in the world, with batteries of automatic gear-cutters and machine tools and assembly-line equipment. There is also an automatic machine in the personnel department.

Into this monster, the Renault executives fed the employment records of 40,000 men and women on whose cards were recorded assessments of quality of work produced, professional worth, attitude toward rules and regulations, and absenteeism.

ON THE ROCKS

Hamilton Spectator, Nov. 23—Business failures in Canada climbed 24 per cent in October, reaching 168, a toll exceeded only twice, March and August of this year, in the post war period.

Some eight per cent more concerns succumbed than in the comparable month of last year when there were 150 casualties, according to Dun and Bradstreet.

* * *

Federation News—The slashing drop in railroad employment of the past five years has been emphasized by latest statistics which show that in 1960 railroad employment has dropped to its lowest point in modern history—below the 800,000 mark as compared with 1,200,000 ten years ago.

When average employment on Class One railroads fell below the 1,000,000 mark in 1957, it was generally believed that it would climb back and stabilize at about a million. It didn't. The railroads kept on cutting back and employment during the 1958 recession dropped to 840,000 where again it was believed it would stabilize.

Again employment kept dropping despite the 1959 recovery with average employment for 1959 falling to 815,474. The year 1960 was even worse. There has not been a single month in 1960 so far that showed an employment improvement over the corresponding month of a year ago. During eight of the ten months of the year, jobs fell below 800,000, the low point being mid-October when railroad payrolls were the lowest in modern history—759,904.

There are no indications that November and December will show much change, leaving the likelihood that average payrolls will be about 783,000 for the year.

(Labor must realize that we are on a one-way street. There is no relief for displaced workers under a Price System operation and only a functional setup as proposed by Technocracy can provide security for all.)

A SUGGESTION FOR THIS SCIENTIFIC AGE

Scientists should have a larger place in government, says Dean Arthur Porter of the University of Saskatoon's college of engineering.

Dean Porter said scientists should do this by two means — "establishment of top-level scientific and technical advisory councils," and putting scientists high-up in government posts. Particularly, he would like to see international diplomacy at least partly in the hands of men with sound scientific training."

Dean Porter considers that scientists should be chosen as ambassadors in order to bring a new viewpoint into diplomacy and thereby allow mankind a chance to get out of some of the "tight spots" it has now got itself into.

"Consider the good effect of appointing a high-ranking scientist or technologist as ambassador, say, to India, or as high commissioner to the United Kingdom."

Scientists as diplomats would be useful in such positions partly because "the language of science is universal." As far as stimulating any export drive was concerned, no more appropriate step could be taken.

"Perhaps the day of the scientific and technological diplomat is not here, but it will certainly come within a decade or so."

Dean Porter noted that Russia was ahead of the western world in giving its scientific influence. Gromyko, probably today the leading Russian diplomat, had a doctorate in science. And Khrushchev himself was a civil engineer who was uninterested in politics until he was 45 or so.

"It would be a wonderful thing if Canada could blaze the trail for the Western nations by making appointments of at least some scientists to diplomatic ranks."

The dean was critical not only of Canada but of all the Western nations for failure to see that its diplomats were recruited from men who were most highly qualified for their extremely critical posts.

In Canada and the United States diplomats were chosen, apparently, without regard to capacity to fulfill their functions, and in Britain the situation was only a little better. In the whole of the British House of Commons there were only two scientists, and in the Canadian House there were apparently none at all.

He realized, he said, that his views on this subject were "highly provocative." But he had intended them to be, "because no university man worth his salt should be a conformist."—From the Star-Phoenix.

(A scientist would be a fool to step in as a lackey to save the Price System. Let him stay out of that mess and work for an entirely new Social Order based on science.)

* * *

TEACHING MACHINES

San Francisco Chronicle—There is no doubt teaching machines will revolutionize the worlds of education and training and the revolution is on the way, an industrial conference heard here recently.

The evidence offered in an all-day session at San Francisco States Downtown Center, included:

A college professor's experiment with his psychology class which showed that those taught by machines scored an average of 86% right on tests, and those who went to class only 77%.

A report that the first four "Scrambled" books —teaching machine programs in book form that anyone can buy and use—have been on sale only two weeks, but already Goren's Elements of Bridge has sold about 20,000 copies.

An Air Force program of teaching electronics by machine that has shown the students prefer the machine to a live teacher.

A prediction by a top industrialist, Kenneth Chapman of Ramo-Woolridge Corporation—that there will be a $100 million market for teaching machines within a decade.

The college professor's experiment and the Air Force research were reported by Norman A. Crowder, an eminent pioneer in the field, who discussed the Air Force program at length.

Essentially, he said, students prefer machine teaching because the lecturer never runs ahead of them, but never goes so slow that they get bored.

Crowder said bluntly he sees no limit to the teaching for which machine programs can be written. Unlike other speakers, who emphasized methodical breakdown of material into tiny bits, Crowder said he regards programming as a task of creative writing.

(Any routine work man does, a machine can do better.)

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Broadcast from Planet X

(The following is a Time-Probe pickup from outer space, focused on the year 3461, our reckoning. Since it appeared to be an intelligible message, it was fed into our Ultra-Y computer which automatically converted it into the English language. As translated, the message seems to pertain to current events on our own planet. Its implications are of the utmost significance to us.)

BULLETIN: From among some marble ruins of the Dead Planet, a new piece of script has been recovered by our latest Interplanetary Exploration Expedition and brought back to Planet X. The script, which appears to be complete, is in the strange hieroglyphics of the creatures who once inhabited that part of the Dead Planet. It has been passed through our decoding machines, and it proves to be a copy of a top level speech made by an ambitious young leader during the last days before the Great Catastrophe that engulfed that planet. It throws some additional light on the causes of that unfortunate event. Following is the speech as it came out of the decoding machine:

Mr. Deputy and Members of the Assembly: As you are, I once was; but, after fourteen years of posing as your equal, I have been blessed with better times, and now I come before you as your Leader. I now speak from the same rostrum where have stood some of the greatest leaders of the world. It gives me something to think about. It makes me feel that I am one of the Immortals.

The law of our realm wisely places you in one branch of the government and myself in another. I shall try to get along with you; and I ask that you keep out of my hair. I shall make my own decisions and will refrain from burdening you with participation in them. I shall pass onto you whatever information I deem you should have.

Within the next four years, this government will be put to a supreme test. The outcome is not at all certain. You guys and all the people of our nation are in this boat with me, and we had better come up with the right answers, or else.

I haven't figured out what we are going to do yet, but I will let you know from time to time what I consider to be proper for the country; so, don't rush me.

Now, I am going to tell you some things that may sound a little harsh to you, but I am not one to pussyfoot around. I don't mind telling you that the previous regime left things here in quite a mess. It let things go from bad to worse and for seven years did nothing about it. The Treasure House is in deplorable shape. Our merchants and traders have fared badly. Many of the common people are idle; some have been that way for so long a time that their ration cards are no longer being honored at the public storehouse. The past administration never achieved full recovery from the last recession it got us into; somebody sat on his hands. The crafts have failed to utilize the productivity of the people. In short, our economy is in trouble.

The storehouses of the merchants and the taxbins of the government are over-loaded with the things that the people desire and need, from toothpicks to chariots; but prices have continued to go up. The people work less, they get less pay, they buy less, the inventories pile up, the workshops close down, the people become impoverished, and the nation fails to achieve the full potential of its productive capacity. Our economy is shrinking while that of certain other nations is expanding; and we're supposed to be the richest nation on earth. That's a fine kettle of fish!

Mind you, I don't know the answer to this problem. But I'm not going to stand idly by; I'm going to be doing things. We can't have workshops closed down; we can't have all these peasants loafing around; we must show the world how productive a do-as-you-please economy can be. But for the sake of the big financiers, we must not jeopardize the soundness of our money nor let prices decline. I guarantee that I shall get things moving.

So I shall soon issue instructions to have the relief period of the idlers extended and more foodstuffs handed out to them. That should give us a little more time to figure out what to do to insure prompt recovery and long-term growth. I hope it works; and I advise that you do some hoping too.

One of our troubles is that foreign traders are bringing in more merchandise than they are taking back with them; they are carrying off our gold instead, and the Treasure House isn't as full as it once was. They use our gold to buy merchandise from other countries cheaper than they can buy it from us. We've got to see that somehow our goods are made to compete with those of other countries in the commerce among nations. Our artisans should get busy and provide better tools so we can produce more things at less cost with fewer workers. Then we can reduce our prices in the foreign marketplace; but, at the same time, we must not let prices fall here at home.

One of our worries arises from the circumstance that the foreign countries, which we occupy with our military forces, to keep them in line with our policies, are not paying their fair share of the occupation costs.

But our monetary and financial position remains exceedingly strong; and I will see to it that our money retains its full value in the future. Right away, we'll get busy and persuade the foreigners — even if we have to give them bargains — to come here and spend their money for our goods. At the same time, we'll clamp down on spending by our citizens in foreign lands. But in doing so we must avoid anything that would soften the morale of the military men stationed abroad, for they are needed to guarantee the perpetuation of our philosophy and to safeguard the speculations of our money-lenders in those countries.

All of this is going to cost a lot of money; so we are going to have to squeeze more taxes out of the people. That, Assemblymen, is your job; so get on with it. And while you are at it, you might consider that great numbers of our people are living in squalor; an alarming number of them are ignorant and need more tutelage: millions are sick of body and mind; many are old and destitute; others are discriminated against because of their race. We don't have enough clean water to drink. Our young people are full of mischief.

Shortly, I shall tell you what you can do to help stimulate business in all of our national regions. That is what this country needs, bigger and better business. You and I need to put our heads together on a program to provide that.

If you think these problems are bad, let me tell you how we stand in other parts of the world. I say, our foreign situation is really quite nasty. The natives in the hinterlands are getting restless and cantankerous; it is getting more difficult for us to keep them in line. They seem to want to do their own thinking instead of letting us do it for them; and, what is worse, some of them are turning to the dreaded Bolshi for ideas of how to run their affairs. Why, the influence of Bolshi has even reached one of the islands off our coast; and the people there are calling us unpleasant names. But, I tell you, this side of the world is ours, and we're not going to tolerate any Bolshi setting foot on 'our' soil.

As for our satellites in Uropa, they don't read our messages very well. They don't seem to sense the need for countering the Bolshi challenge in the same way we do. We still have a job of conversion to do.

If we are to achieve our goal of establishing a stable World Order, then we must somehow penetrate the regions under Bolshi domination and subvert or subdue the people there. We'll talk peace, but at the same time we'll build more and bigger weapons. When we are able to go into the realms of the Bolshi and annihilate the people with one massive blow, then we can decide on peace or war.

I have asked my advisors to make a realistic estimate of our foes and let me know what is needed before we can go in and clobber them good. When we have that information, you and I can start spending really big money and get things moving. In the meantime, I am ordering that our armaments be polished up and made ready for us, and that our generals agree to see things my way and quit bickering among themselves.

Also, we must bring the other nations of the world to heel. This will cost a lot of money; but it is necessary for us to convince them they need us to tell them what to do and to define their destiny for them. One urgent piece of business is arranging for a magnificent bribe for our Good Neighbors to the south, to bring them around to our way of thinking. They have been showing too much independence lately. Particularly, we must wean them from their recent habit of making calf eyes in the direction of those awful Bolshi. It seems to me to be a good idea to empty your bounteous warehouses and granaries as a means of seducing foreign people to be our friends. We need them to take the brunt of the Bolshi attack.

There are many dedicated people in our country as well as in foreign countries who have indicated a desire to contribute their skills, their efforts, and even their lives to help us in our fight for a World Order. These people can be organ-

ized into fighting brigades which we shall call Peace Corps. They shall then train additional personnel for our Crusade.

While we are making these preparations, we must not forget our objective of promoting distrust and dissension among the people under the Bolshi domination. This can probably gain the most headway, at first, in the province of Poldna, where most of the inhabitants are our kind of people. Further, we must prepare the personnel to take charge of affairs in those areas we bring into our Alliance, for such personnel must be the means of our gaining the 'cooperation' on which an enforceable World Order must rest.

While we are building up our arsenals of weapons and preparing for the establishment of a new World Order, I shall proceed with talks dealing with disarmament, weapons reductions, and peaceful cooperation among nations. In this phase of our program, we shall use the World Forum, where it is possible for us to carry out broad negotiations and win the support of numerous smaller, non-committed nations.

As part of our misdirection, we can invite the Bolshi to join with us in seeking ways of deciphering the mysteries of the outer heavens and in probing the secrets of the nearer planets. The Bolshi are ahead of us in certain technical knowledge and procedures, and we may as well learn all we can of their secrets. Further, we can invite the artisans of all nations to come here and share with us their discoveries and we will let them in on some of our own discoveries (but not our defense secrets). Thus, as we prepare to fight the Bolshi, we shall try to gain their confidence through the pretences of negotiation.

First, we shall stall for time while we decide what to negotiate about.

We must try, through negotiations and agreements, to gain the confidence of all peoples in our desire for a modus vivendi — and this confidence must, some day, serve as the basis for World Peace through World Law.

I have talked about the messy condition of our domestic economy, of the deplorable condition of our financial affairs, and of the sorry state of the world as we view it. Now I shall talk about myself and my Department of Government.

The Department of Leadership has plenty of obedient servants in it; but we find them all mixed up. They have been so intimidated and squelched that they dare not open their mouths to voice an opinion of their own or to make a decision. As a consequence, nothing is being done. Everything is bogged down. I mean to make some changes.

I want everyone in the Department to keep busy; I want them to speak their minds; I want them to initiate change. I want them to say with pride in the future, 'I was on the job during the hour of our nation's greatest peril.'

We should all dig in for hard times ahead; for, conditions will get worse before they get better: we should prepare for the worst. We can't escape the danger, but we shouldn't get panicky. The Bolshi are more powerful than we are, and our allies are undecided which side to serve.

It is ironic that an efficiently organized system should instill ardor and discipline in its people; while we, who are free to seek our own ends and avoid social responsibility, remain indifferent and divisive. And, strangely, it is we who have become the symbol of evil in many parts of the world.

In the coming year, we shall turn the tide. It won't be easy and you are not going to like what you get — but we shall do it!

The people who have signed on with Our Side, wherever they reside in the world and whatever their station in life, depend upon us to take care of them.

May the gods have mercy on us.

(End of Message. Over and out.)

—"Anne Onimus"

MAN-MADE FIBER

Chemical Engineering, Feb. 6—A new organic fiber, laconically described by Minnesota Mining & Mfg. as a compound of carbon, hydrogen, oxygen and nitrogen, is opening new vistas in high temperature applications.

Called Pluton (after the Greek god of Hades), the fiber has been exposed in a plasma jet to temperatures up to 18,000 F. without melting. Because of its tensile strength and resistance to high temperatures, Pluton will go into lining of missile motor cases, anti-arc wraps in power plants, fire-protective curtains in mines, steel mills and public buildings.

When reinforced with phenolic resins, this fiber becomes suitable for structural parts of rocket engines and in missile cones that must resist extremely high velocities, temperatures and pressures.

There Ought to be a Law

Dear Senator:

I see by the papers where our gold is all disappearing out of Fort Knox. I thought it was buried so deep and guarded so well that nobody would be able to get it out; but I guess Fort Knox isn't as fool-proof as they said it was. From pictures I've seen of it, the gold is all made into bars which are small enough for a man to lift, and they are all counted and stacked in neat piles. Anybody can tell just how much gold we've got. And it can be moved around awfully easy. That doesn't seem to me to be the right way to handle it.

I think if they took all the gold and melted it together in one big lump, and maybe covered it all over with melted lead, it would be plenty safe. Nobody could get at it to move or steal it. Also, nobody could tell just how much gold we have; so, we could say we had whatever amount we wanted people to believe we had and they couldn't prove us wrong. Then the government could issue bonds and money which are worth so much in gold and the people could use these to trade with. If nobody knows how much gold there is, and if we don't tell anybody how many bonds are issued; then everybody will think there is plenty of gold, and the bonds will be as good as gold. As I understand it, people, especially foreigners, have to believe that we've got a big pot of gold in Fort Knox or our business system will go to pot; but I think it would be safer in one big lump, don't you?

So, if you will just pass a law to fix it up this way, I don't think we will need to worry any more about the gold disappearing.

Sincerely yours,

BEETAL BRAYNE

P.S.: I hear the Russians have lots of gold, maybe more than we've got. Could that be why they are ahead of us in prestige?

Can U. S. Stand Ravages of Peace

Washington: Can we afford Peace?

That sounds like a callous question. But it arises when you study the economic impact of Department of Defense spending.

In fiscal year 1959, the Pentagon spent $6,820,000,000 in the state of California. About five and a quarter billion went for military supplies, services and construction, the rest for pay to military personnel and to civilian employees of the Defense Department.

About one-fifth of all the money spent that year in the United States was spent in California. The biggest clump of course went into the aircraft industry in Southern California.

If you ask specifically could California stand the ravages of peace, the answer would have to be negative.

The Pentagon in 1959 spent $953,000,000 in the relatively small state of Connecticut. The military buyers put $1,432,000,000 into Massachusetts, $2,865,000,000 into New York, $1,321,000,000 into Ohio, $2,250,000,000 into Texas, $820,000,000 into Illinois, and $886,000,000 into Michigan.

Altogether the Defense Department put $32.8 billion worth of red corpuscles into the economic blood of the United States that year. The states where that spending was heaviest would have serious withdrawal symptoms if the narcotic of defense money were taken away.

Many corporations also lean heavily on the Pentagon for business. (It doesn't change the fact to emphasize that the Pentagon leans on the corporations for defense.)

General Electric received $783,100,000 in defense orders in fiscal 1958. This business represented 24 per cent of G. E.'s total sales.

Lockheed Aircraft's $755,100,000 in Defense Department orders accounted for 86 per cent of its business. United Aircraft did 88 per cent of its business with the Pentagon, Raytheon Mfg. 86 per cent, Bendix Aviation 73 per cent, and so on.

Since some Korean war legislation relieved the Pentagon of the obligation of getting bids for its contracts, most of our military procurement is done on the "negotiated contract," or "cost plus" basis.

As a result of this system, the Pentagon wastes untold billions in many ways.

What's the World Coming To?

The ways things are shaping up, most of us realize that there are many and varied problems facing not only this country but the entire world, that cannot be shoved into the background.

Besides the spreading unrest in backward countries striving for self-government and the privilege of using their own resources for their own benefit, we find more advanced nations losing their erstwhile colonies, whose loss means a serious economic setback to the colonial powers.

The question of economics ranks high on the agenda of every nation, each is striving to industrialize more and more and to find markets for its products.

Perhaps nowhere is there more need to make new and varied economic adjustments than in our own U. S. A. It is becoming increasingly clear that we are caught between the horns of a dilemma that must be recognized positively, if we are to extricate ourselves. Ignorance or misunderstanding of the causes may result in chaos. We must remove our blindfolds and take a good look around us.

During the mid-fifties Industry in general greatly expanded its productive capacity, in anticipation of a boom that failed to come up to expectations. The industrialists remodeled or enlarged their plants, installing machines that would replace thousands of employees in many trades. They claimed that automation actually made more jobs than it eliminated in other fields such as maintenance, selling, etc. But this proved only partially true; for, as time went on, more and more mechanization was installed, including self-maintaining machines; and more workers walked the streets, unable to find other employment. Whole factories were deserted completely and owners built new ones far away where labor was cheaper, leaving old employees stranded.

We are still attempting to apply old, passe' ideas to 20th Century conditions and expecting them to work, but they wont. We opened the floodgates of production but choked off the channels of distribution, and then we wonder where the market went. It is slackening because something over 5 million bread-winners are lacking the means of earning a living. The food, clothing and other items they want are in surplus supply, but the little old price tag says "no".

The new administration plans to distribute some of the surplus to the needy here and abroad. The food stamp plan will be adopted here, but it is only a stop-gap. After all, salvation in the economic sense will not be gained through charity nor by manual work. Rather, it will come from the realization that our nation prospers or fails in the degree that we solve our problems of distribution in a scientific manner.

We are faced with the problem of providing full education for all American citizens. Ample schoolrooms and good teachers are seriously needed. But, even more we need a positive concept of what to teach.

Next, there is the problem of health care. It needs to be extended to include all citizens. At present we find old age pension, unemployment insurance, social security and similar ideas are deemed socialistic. Our politicians say so. Some times they call it regimentation, or creeping socialism, which makes it even dirtier. However, there are hospitals in the Washington area where the politicians and high officials go for free medical care, but you and I must pay for it. Now this must be good, clean capitalism, because we never do hear any of them call it socialism.

To quote from a letter-to-the-editor (Salt Lake Tribune), "We, through the government, give the multimillionaire oil moguls 27% tax reduction on their income tax. We pay the bankers some 12 billion dollars a year for using our own money. We guarantee multimillionaire industrialists millions in profits on their contracts. If we give away millions to those who have billions, it is respectable capitalism, but if we give a few dollars to a poor working stiff, it is out and out dirty, filthy socialism. Its as simple as that.

A very present headache for the United States has been the dwindling gold supply. A deficit of 3.8 billion dollars in U. S. balance of payments has been given foreigners money to buy up American gold. This deficit must be reduced we are told, by spending less money abroad and inducing foreign countries to spend more money here.

With $11.5 billion of U. S. gold tied up by law, we still have $6.5 billion in gold to meet foreign demand. Exports brought in $22.5 billions, foreign visitors spent $900 million here; $1 billion in government loans were repaid us by

other nations; foreigners invested $500 million in this country; but all these were not enough to cancel the deficit.

American industrialists have invested huge sums abroad, in enterprises ($2.3 billion in 1959 alone), hired cheap labor, and their imported products undersell goods manufactured in the U. S. In the guise of foreign aid the government encouraged these investments. Now the tremendous amount thus invested abroad has backfired, and has contributed to the gold outflow and weakness of our dollar.

It is dawning on the minds of intelligent people that our once cherished price system is failing us in this new economy of plenty. It was geared to conditions of scarcity; it simply cannot handle abundance.

Money is becoming more and more a barrier to progress. All departments of government, from municipal up to federal, are stymied for lack of sufficient funds, yet they are collecting more taxes than ever before.

In fact, given any set of economic conditions, money can be relied upon to respond in such a way as to make them worse. It is therefore impossible to find a workable solution to the economic problems of the world as long as money is used as a medium of exchange.

Now man-hours are constantly being replaced by the kilowatt-hour as the type of energy used in business and industry, we need to adopt a more scientifically exact unit for measuring costs in terms of energy expended, not money.

Let Technocracy explain to you how an Energy Certificate can solve all the knotty problems of production and distribution, and do it so well that every citizen on this continent will receive his share of the good things of life, such as food, clothing, shelter, health care, education and transportation, to mention only a few.

What is the world coming to? Surely not, we hope, to a ridiculous atomic war which would resolve nothing, but could make this planet unfit for human habitation.

Rather, let us trust science and good sense to lead us away from the brink of chaos, and into a a worldwide condition of mutual understanding, helpfulness, and Peace.

Let us begin by working for the installation of Technocracy on the North American Continent.

—Henrietta Phillips, 1-11140

Price System Prognosis

The relationship between Technocracy and the public of North America is somewhat analogous to that existing between a doctor and a patient with an infected appendix.

A person may have an appendix that seems to 'act up' once in a while. Let us suppose that the doctor diagnoses it as a mild infection that is poisoning the patient's system, thus preventing him from enjoying his best health. The doctor's prognosis is that the condition may lie relatively dormant for some time but that it is bound to worsen. Surgery is indicated, as soon as practicable. If delayed too long, the operation could be difficult —even unsuccessful.

As often happens, the patient says he feels okay and wants to put off action indefinitely. He hopes the doctor is wrong. Then one day he has a serious attack. Delay is encountered in locating the doctor. He has difficulty in making the necessary arrangements with a hospital. A surgeon and an operating staff are readied. The appendix is near the bursting point. The patient is facing a dangerous ordeal. Will he pull through?

Human society on this Continent is in a similar dilemma. Its economic system, the means whereby it distributes goods and services to its members, is faltering. It has been doing so for years, ever since about the end of World War I; it never was efficient; it has been the cause of much hardship and pain. Technocracy pointed out long ago that, due to changing conditions brought about by the advent of technology, this Price System was no longer useful, just like the appendix. The Organization warned that once decay set in, retention of the Price System could cause chaos and death. In this way did its diagnosis and prognosis compare with those of the doctor who had the patient with appendicitis.

Here the analogy ends. When an appendix is removed, the body continues to function normally without it. When the people of North America realize that the Price System is a threat to their very existence, and decide to discard it, another distribution system very different in character must be installed to ensure mass survival. Technocracy's social program is designed to fulfill this

(continued on page 26)

A Private Club Shapes Government Policy

For those deluded voters who hoped for a change when Mr. Kennedy took office.

Who are the real rulers of the U. S.? The millions who cast votes once every four years — or the few moneyed magnates who have the inside track in the top government circles throughout the year?

A sensational article in the September Harper's magazine, entitled "America's Most Powerful Private Club" helps answer this question. It tells about a semi-official, semi-social organization of the very biggest businessmen who "advise" the government on its major policy decisions.

The club is called the "Business Advisory Council for the Commerce Department." One hundred and sixty key business executives, carefully handpicked by the Secretary of Commerce, belong to it. The current president is Ralph Cordiner of General Electric.

On its rolls are the heads of duPont, U. S. Steel, Standard Oil of N. J., and Ford Motor. BAC's present members include two out of the three biggest auto manufacturers; two out of the four biggest rubber producers; two out of the three biggest textile companies; and four out of the ten biggest chemical manufacturers. Also the top executives of the largest data-processing company; the biggest farm equipment maker; and the largest domestic meat packer. Important banking, brokerage and insurance interests are well represented.

Admittance to this club is the supreme accolade of American business, said to be worth "millions in prestige". Exclaimed a Washington economist at his first BAC cocktail party: "Boy, just to be in this room means you've really arrived."

The Council meets regularly with government officials six times a year, twice a year at plush resorts where they can talk over problems and policies in an intimate atmosphere. Government guests who came to its May 1955 meeting at Homestead Hot Springs, Virginia, included four cabinet members and nine other key men in Eisenhower's regime.

However, BAC is not simply a Republican outfit. It originated during the first days of Roosevelt's administration. Since then it has continued to counsel both Democratic and Republican Administrations.

Their get-togethers are completely private. Newsmen are not allowed into the sessions which are all off the record. Congressman Emanuel Celler of New York, head of the House Anti-Trust Committee, stated flatly in 1955 that BAC was a lobby for big business "which very definitely operates in violation of the rules laid down by the Justice Department for industry advisory committees."

BAC members are given access to government economic estimates unavailable to other groups. These give them a unique foreknowledge of official policies and intentions on economic matters.

So many BAC members take top government posts that it is difficult to tell where their organizational obligations end and their official duties begin. After the 1952 elections, Eisenhower vacationed in Georgia close by the session of the BAC and held close conferences with several of its key people, such as Sidney J. Weinberg, senior partner of the New York investment house of Goldman, Sachs & Co.

Shortly after he chose BAC men for three of the four top posts in his cabinet, none of whom had previously been politically prominent. They were Wilson of GM as Defense Secretary; Humphrey of M. A. Hanna Co. as Treasury Secretary; Robert T. Stevens of J. P. Stevens & Co. as Army Secretary.

Under both Democratic and Republican presidents the BAC fraternity has provided a ready-made reservoir of top administrators during wartime. The author of the article, Robart Rowman, Business Trends Editor of Newsweek, observes: "There was a time during the Korean war when it took an expert on the BAC to determine whether a given corporation executive was on his own or Uncle Sam's payroll at the moment."

Insight into its influence is given by its hitherto undisclosed intervention in the case of Senator Joseph McCarthy. "The BAC helped push Senator Joe McCarthy over the brink in 1954, by supplying a bit of backbone to the Eisenhower Administration at the right time," writes Rowan. "McCarthy's chief target in the Army-McCarthy hearings was the aforementioned Robert T. Stevens— a big wheel in the BAC who had become Secretary of the Army. The BAC didn't pay much — if any

— attention to Joe McCarthy as a social menace until he started to pick on Bob Stevens. Then, they burned up.

"During the May 1954 meeting at the Homestead, Stevens flew down from Washington for a weekend reprieve from his televised torture. A special delegation of BAC officials made it a point to journey from the hotel to the mountain-top airport to greet Stevens. He was escorted into the lobby like a conquering hero. Then, publicly, one member of the BAC after another roasted the Eisenhower Administration for its McCarthy-appeasement policy. The BAC's attitude gave the Administration some courage and shortly thereafter former Senator Ralph Flanders (A Republican and BAC member) introduced a Senate resolution calling for censure.

This suggests that had the BAC considered the time ripe for a fascist movement, as such, their nod in the other direction might have been decisive in furthering McCarthy's political fortunes.

"From Administration to Administration," concludes the author, "this elite group has had a continuous privilege to participate in government decisions with no public record or review."

A final point, dues of BAC members — a maximum of $1500 annually—are tax deductible. Influencing government policy in their interest is considered an essential business expense by the Internal Revenue Service.

Research Bulletin—*Continued*

A GRIZZLY "HINT"

Saskatoon Star-Phoenix — Dr. Peter Worsley, noted anthropologist-sociologist and an advocate of nuclear disarmament, said here Thursday the devastation caused by atom bombs dropped on Hiroshima and Nagasaki in 1945 was only a hint of the destruction that would be caused by hydrogen bomb warfare.

He told more than 50 people at a nuclear disarmament rally Thursday night the force of one hydrogen bomb alone would probably equal the power of all explosives ever dropped in history. Millions of people would be annihilated either directly from the bomb blast or indirectly from widespread radiation fall-out.

He told the meeting, co-sponsored by the University Campaign for Nuclear Disarmament, the Saskatoon Committee for the Control of Radiation Hazards and the Student Christian Movement, there would be no victory for any participants in nuclear war.

Dr. Worsley added that many people today still think of the past, of two world wars, and that they think in terms of victory and defense.

"Those words are good only for museums," he said. "They don't apply in the world of 1960. There can now only be total destruction, no victory."

(This is a question of survival and no North American can avoid the consequences of allowing antiquated political and financial interests to influence the decision.)

HIGHER PRODUCTION—LESS MAN-HOURS

Los Angeles Times, Nov. 4—One of the biggest technical advances in auto building for 1961 has been Rambler's success in using die-casting techniques for forming all aluminum engine blocks. This system, heretofore unsuccessful in large complex castings such as auto engines, was developed over a three-year period by Rambler organization, in cooperation with Doehler-Jarvis division of National Lead Co.

New machines, designed specifically for this difficult job, squirt molten aluminum into 25-ton steel dies under 8,000-lb. pressure, to complete a casting cycle in just two minutes and 40 seconds. The actual casting requires only 40 seconds; the two minutes are required to set the machine up for the next casting "shot."

* * *

Wall Street Journal, Nov. 29—Thirsty jets make kerosene the oil industry's fastest-growing product. Mainly because airline jet fleets are expanding, kerosene use spurted 40.6% above a year earlier in the three months ended October 31. A Boeing 707 jet burns about 2,400 gallons an hour. Oil economists expect kerosene and blended jet fuel use to climb 21.1% next year over 1960, while they forecast no more than a 2.5% rise in demand for all petroleum.

* * *

A VALID CRITICISM

Western Producer—The United States farm program was criticized recently as "almost totally lacking in any great national purpose."

The Conference on Economic Progress, a private research organization, said in a report that

farm policy has been characterized by a "retreat from any real purposefulness" and "a backward movement toward the philosophy of laissez-faire."

The report said "purposeful efforts to help the farmer obtain a fair share of the national income have given way to the dogma refuted by all experience that the farmer can sufficiently help himself.

The organization said real farm income had dropped 25 per cent since 1947, while total personal real income had risen 54 per cent.

"The farm depression has been a powerful factor in the slowdown of our overall rate of economic growth," the report said.

It predicted that farm output would rise by 85 per cent in the next decade and warned that the increase would "gravely aggravate all the evils which now afflict American agriculture."

(The report while stressing the bad effects of political bungling ignores the impact of technology.)

* * *

STALE NEWS; U. S. IS RUNNING SHORT ON RESOURCES

San Francisco News-Call Bulletin (AP)—Survival of the United States as a nation may depend on wise use of its natural resources, the Army engineers have warned in calling for an end to their exploitation.

The warning was sounded in a report printed by a special Senate committee on national water resources.

The report is one of many to be considered by the committee in recommending legislation next year aimed at conserving and developing water resources. The committee has conducted the most extensive investigation of its kind ever made.

Army engineers called attention to wasteful exploitation of resources, including reckless timber cutting and other practices which add to erosion and cause costly flood damage.

"Modification of existing laws is now far more important than it has been in the past," the engineers report said, "for the nation has passed into a new era in which it can no longer look forward to the exploitation of what once seemed to be an unlimited reserve of natural resources.

"Today our resources are, as it were, under our feet, and the very existence of the nation may depend upon the efficient use of those resources."

The engineers noted that many witnesses heard by the committee had testified the nation would be hardpressed to supply enough water in the next century to satisfy the demands for food, industrial and other use by a fast-growing population.

(Technocrats for the past 30 years have been sounding this same warning (see our pamphlet, "A Continental Hydrology). If past observance of this warning is any criterion, we can expect that the same kind of 'attention' will be given this report by private Business.)

* * *

UNCLE SAM'S TAKE

Chicago American—The 3½-day work week sounds like a dream, but a lot of Americans work less than 29 hours of their 40-hour week right now to provide for food, shelter, clothing, etc. The rest of the work week, more than 11 hours, or about 1½ days, goes to government—for taxes.

(Technocracy's four day work-week sounds less "weird" all the time.)

* * *

JAPANESE DEVELOP FIRST AUTOMATIC SPINNING PROCESS

An historic achievement rivalling the invention of the cotton gin, the completion of a continuous automation cotton spinning system has been developed by the Toyo Spinning Co. of Japan, according to word received here by Kenji Hatanaka, manager of Nikko Kasai Securities Co.

Immediate steps are to be taken to secure patent rights in 12 foreign countries, including Great Britain and the United States.

The continuous automated system process is capable of producing finished cotton yarns from raw cotton and will eliminate all human labor required in doing the same job through five to eight stages, including mixing and carding. . . . Herald Express, Feb. 13.

(Technology recognizes no national boundaries. The application of this example will be another hard blow to the already burdened Price System.)

COVER

Symbolizing one of the facets of Technocracy's program of balancing production and distribution. An abundance for every Citizen on the North American Continent.

TECHNOCRACY'S FUNCTION from page 2

and manufactured goods which were being produced in the coastal regions. The very magnitude of the job called for better means than the ones of human toil and hand tools and, fortunately for us, there were men of ingenuity such as Whitney, McCormick, Bell and hundreds of other technical men who were able to solve the problems as they arose. Today we would call such men scientists or engineers but in their day they were classed as inventive Yankees. Today we are experiencing the accumulated affect of the work of such men upon our social fabric, and now the effect is so accelerated that advances in techniques and machines cannot be incorporated into our daily lives. The record shows that these scientists, engineers, technicians and mechanics were hampered by the political, financial, and religious people of their time.

Today the same strictures are in force. The application of technology is such that the system cannot distribute the abundance it is capable of producing. A further application of science must be applied to the distribution side of our economy.

What is meant by this?

Actually it is simple in concept. Technocracy proposes that the North American Continent be operated as a self-contained functional unit under technological control; that purchasing power be distributed to all the people of the continent, commensurate with the resources, and on a balanced load basis; that such physical equipment as is necessary be operated on a full load basis. The end result of such operation would guarantee a high standard of living, a high standard of public health and education, economic security to all inhabitants with a minimum of human toil.

When you contrast Technocracy's proposals with our present day operations it should make you realize that we fall far short of our possibilities. Remember, too, that these are proposals. This is the way in which we are headed. This is a way of life we can attain. But you, mister question asker, are among the ones who are going to have to install this operation. There is an alternative, we can wind up in chaos and go down in history as the people who had the greatest opportunity yet presented to man, but who did not have the intelligence and initiative to grasp it.

—L. M. Proctor, 1-11834

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a simple mechanical operation, modified only by the subjective desires of the individuals.

The fallacy of all status quo thinking on the social consequences of automation is that it can visualize distribution only through purchases based on incomes from jobs. On the other hand, Technocracy de-emphasizes the social significance of jobs and places primary consideration on equitable distribution of goods and services to all members of the population. What the North American people most need and want are incomes, not jobs. Let the government begin by guaranteeing every individual on the Continent an income, regardless of his employment status; then, we can start to solve our distribution problem. Functional assignments of citizens (jobs) then assumes secondary significance.

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need, to meet this emergency and prevent future emergencies.

The last time the ailing Price System reached a critical stage was back in the Thirties, resulting in the Great Depression. The wartime boom and the postwar prosperity provided a shot in the buttock for our social system and the patient rallied. However, as we enter the Sixties, the worsening condition of the economy is beginning to become more and more obvious. What shall this decade be called in the history books, the Unsavory Sixties? The stimulant of war is no longer practical; it is likely to wipe out patient, attendants and observers. We must make another choice.

And, like the man with the near-bursting appendix, we shall have to make the correct choice—and we may not have too much time to do it in. Technocracy suggests that YOU start thinking about it right now. Start studying Technocracy.

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TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

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March, 1961 Whole No. 197

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The people of the United States and Canada are being deluded with fairyland concepts about population and standard of living. For more than a century, these areas have been subjected to bonanza exploitation. This can be done only once. When irreplaceable resources, such as fossil fuels, metals, and mineral fertilizers are exhausted, they are gone forever. The United States is rapidly approaching the end with respect to several important resources. Further, these areas, particularly the United States, have been in a position to live beyond their income, even after allowing for their bonanza exploitation. They have also lived off the produce and labors of external areas, which have provided them with various low-cost imports. When it comes to living on the resources of one's own area, pro-rated over a long-term period, the social problem becomes much graver. Yet that is what must be done if we are to achieve social stability on this Continent. On such a self contained, long-term basis, North America is already exceeding its optimum population by several tens of millions. Every new million added to the present numbers will add to the burden and hazards of social living and contribute to a reduction in the general standard of living. What is more, since there are already many more people here than are required to operate the area, even on a reduced-work basis, all additional numbers will have to be carried as dead weight by the society.

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JUNE '61

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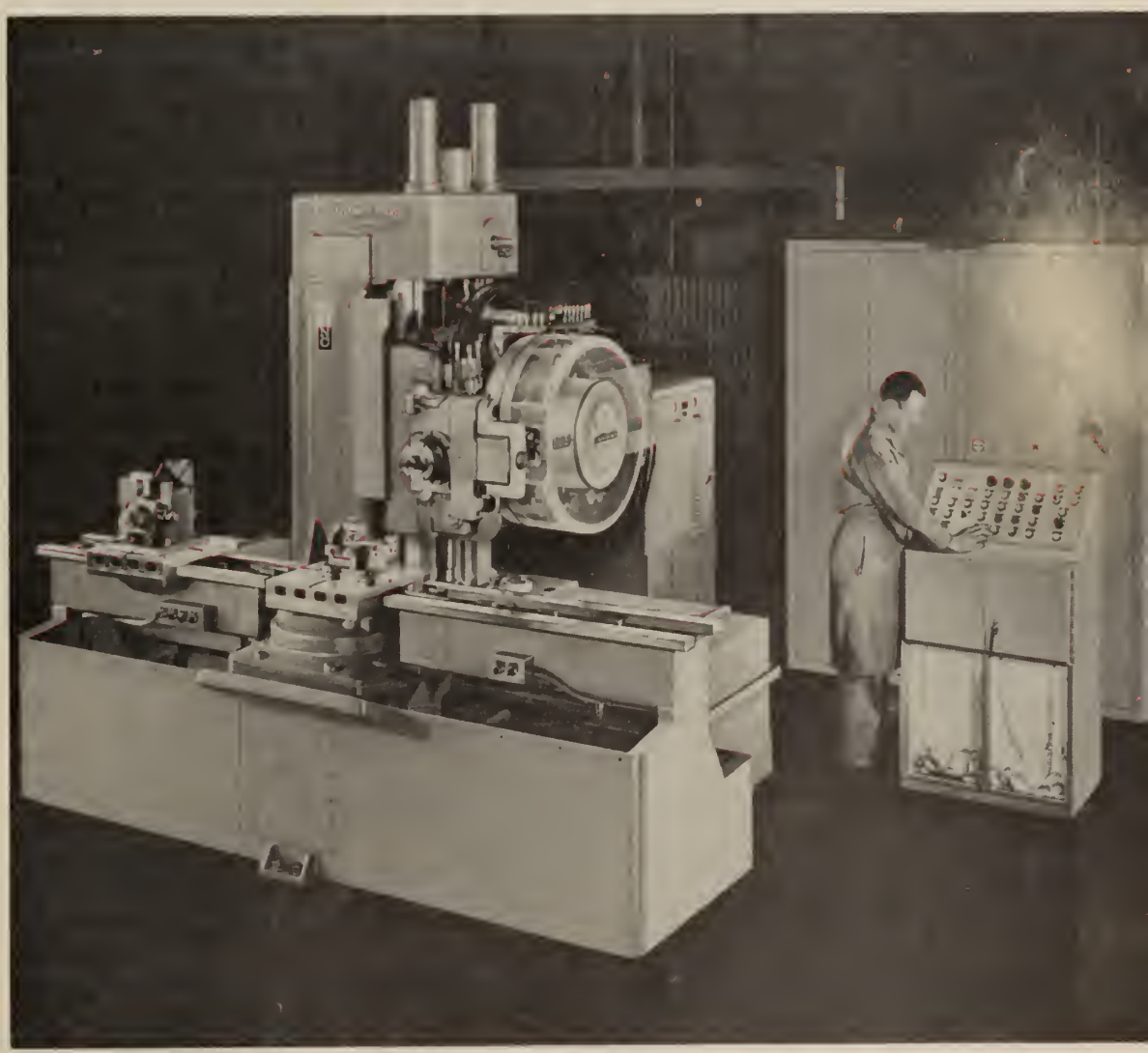

The TECHNOCRAT

JUNE, 1961

Editorial

Magic

Primitive man in his fumbling search for ways in which to control his environment and fend off the many hazards of life turned first to a personal magic. His enemies were many and in order to wreak vengeance upon his enemy it seemed to be necessary for him to have some object which belonged to his enemy in a very personal way, such as one of his weapons, or a piece of his wearing apparel or preferably some part of his body, such as a hair, a fingernail or even his excrement. Then by performing some ritual or incantation over this, bring his enemy to account. The persistence of this belief in magic is apparent even today in many parts of the world. It is surprising to find it in parts of the United States for there have been reports of finding rag, clay or wax figures of persons in which pins and needles have been stuck in the belief that harm would come to the person so depicted. We would like to think that all this mumbo-jumbo is in the past of man and that we had progressed to a much higher level of civilization. But have we? For instance is it not a belief in magic which will allow the people of any locality troubled by smog such as Los Angeles to expect our politicians to pass laws to legislate smog out of existence, requiring cars to have smog consuming devices, even though such devices have not been invented yet?

Primitive man with his belief in a personal magic, left himself wide open for exploitation, and the shrewder, more intelligent human being took advantage of the opportunity. They, the shrewd ones, discovered it was possible to convince their more gullible fellows that they possessed certain powers that were denied to others and that they alone had contact with, and influence over, the powers that controlled the environment and destiny of their fellow men. They also recognized their own inability to influence certain natural forces which hitherto man had believed to be under his complete control, but, being in direct communication with the powers that did control these forces, they could exert a benign influence for their friends or an adverse influence upon their enemies. Thus having elevated themselves to the position of seers it was not such a long step to the position of high priest, chieftain or king and to the perpetuation of this status from father to son. Dynasties were established, the infallibility of religious pronunciations was upheld, and the idea of the divine origin of kings was born.

As the associations of men became more numerous and complex many of the duties attached to these offices had to be delegated and thus came into existence what we know as governments and religious organizations with all the pomp and circumstance with which we are all so familiar.

In our day, in the secular side of our life, those things which affect our pursuit of a livelihood are being interpreted for us by economists, and those pertaining to our association with our fellowmen, our morals, our beliefs, and our possible hereafter are considered to be the province of the ecclesiastics. The economist speaks of cycles, of the effect of sunspots, of the actions of

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Inflation Hoax Exposed

The citizens of the North American Continent are being deluged with propaganda advising them that one of the greatest dangers confronting them is that of inflation. This propaganda has some appearance of validity because, in the present economic circumstances, there are a few symptoms which simulate those of past and present inflations in other countries. But, basically, the whole propaganda campaign is a hoax, intended to deceive and misdirect the attention of the public. Inflation, in the conventional meaning of the term, is not a danger to this Continent.

Inflation is that economic condition wherein the supply of goods is much scarcer than the demand and wherein money is plentiful, with the consequence that the people 'bid up' the price of goods all out of proportion to their previous price levels. Inflation flourishes most where there are large quantities of currency in circulation so that the people have the wherewithal to 'bid up' the prices. None of these conditions prevail on the North American Continent.

The United States and Canada are not suffering from a scarcity of goods and services but, contraiwise, they are plagued with a virtual abundance. A surplus of goods constitutes a strong influence in the opposite direction — toward *deflation*. If this Continent had a 'free competitive economy,' we now would be in the midst of a deflationary depression; but, not having a free competitive economy, the tendency toward lower prices is being restrained by monopoly control techniques. This artificial condition is being supported in various ways and, in this, the government is a primary agency. The official black-white propaganda would have us believe that the government has a desire to hold prices down for the consumer; but its real desire is just the opposite — to keep prices from going down and to boost them whenever expedient.

Another factor that mitigates against inflation on this Continent is the small proportion of business that is transacted with currency. Most money transfers in the United States and Canada are with forms of paper other than currency. Although the amount of currency in circulation in the United States is four to five times that prior to World War II — about $32 billion now, about $7 billion then — this is not enough of an increase to lubricate a full-scale inflation, particularly since a large part of this currency (about $9.4 billion) is in large-denomination bills which, presumably, are hoarded.

A substitute for currency inflation is credit inflation. That is, instead of the consumers using currency to pay for goods, they use credit; in other words, they go into debt. Installment buying is a popular means of credit inflation. Buying on long-term mortgages is another; and borrowing from loan companies and banks to meet current expenses is also widely used. But, the trouble with credit inflation is that it is limited. A person can go into debt only so far before he runs into difficulty finding creditors.

If the amount of currency and credit combined is not adequate to absorb the goods available and give them excessive scarcity value, then the inflation bogs down. The goods for sale exceed the money available to buy them at inflated prices. That happens to be the present situation on this Continent. The present attempts to hold up prices in the face of market saturation are too feeble. The immediate alternatives under the Price System are either deflation or large-scale federal expansion of debt accompanied by wholesale destruction of consumer goods.

New Deal Fought Deflation

The deflation of the 'thirties' was halted and eventually 'cured' by unprecedented creation of federal debt, particularly that which was rendered permissible by World War II. Our getting involved in World War II enabled our Price System administrators to meet the problem of deflation in two ways: (1) It gave them a special dispensation to create unlimited debt; and (2) it enabled them to destroy, shoot away, and dump a major part of the produce and thus keep it away from the consumer markets. So, by keeping consumer goods scarce and at the same time pumping billions of dollars into the hands of the consumers, a limited inflation was stimulated. Eventually, prices rose to two, three, and, on selected items, to four or more times their previous levels; but, on the whole, the prices have little more than doubled.

No matter how much the political administration attempts to stimulate prices (while at the same time two-facedly 'deploring' the high prices brought about by gougers and profiteers), the over-all results have been discouraging. While a 'ten-cent dollar' was and still is a political desire, the Price System is stuck with a 'forty-cent dollar,' which is only a little bit 'better' than a hundred-cent dollar in the eyes of the guardians of scarcity values. And there is grave danger that the 'forty-cent dollar' will begin to accumulate more cents as time goes on. That is the horrible fear that in recent years and months has been gripping the politicians and businessmen of North America. What, oh what, they wail, has happened to that 'ten-cent dollar' which was being so freely mentioned as a probability only a few years ago? If the debtors of this nation have to pay off all their debts with 'forty-cent dollars' (or higher), it will be rugged, indeed.

The people who benefit most from inflation are those who go heavily into debt in the purchase of physical goods. Thus, they receive physical wealth in terms of high-value dollars and pay for it with low-value dollars. It is the creditor who is most likely to suffer in times of inflation. In the case of the federal debt, the American citizens who hold the government bonds are the creditors; the government is the debtor. Thus, the government stands to gain many billions of dollars (prewar value) if somehow a substantial degree of inflation can be induced into the system. But, if there is going to be only, say, a fifty per cent inflation in ten years, then bonds sold to the public ten years ago will have to be paid off at two-thirds of their purchase cost (after adjusting for inflation and interest). It would be much more satisfying to the federal money-changers if they could pay off these bonds at, say, one-tenth of their original cost to the public. It certainly is not their will or desire that the bond-buying public should get two-thirds of its invested values back. This 'unhappy' circumstance is due to our technological capacity being sufficient to turn out 'too many' goods for the consumer market.

Abundance and Inflation Don't Mesh

The repetitious rounds of wage increases, followed by price increases, and vice versa, is one technique for inducing a gradual inflation; and, under certain circumstances, it might work out as planned. But, on this Continent, those circumstances do not prevail. Theoretically, if a manufacturer has to pay higher wages, he will charge higher prices for his product, and the workers will again demand higher wages to meet the increased costs, and so on; a progressive inflation is on the way. In a hand tool, human toil economy, one would expect it to work out that way. But, under a high-energy, 'free enterprise' economy, in which each industry is seeking to make ever greater profits from the system, the manufacturer proceeds to install more labor-displacing machinery in an effort to cut down on the rising labor costs. The machines produce still more goods and the corporation pays out less in wages. The goods pile up, and the inflation spiral runs into trouble. It doesn't balance out right; for, there are too many goods in the warehouses and too little purchasing power (both currency and credit) in the hands of the consumers.

Politicians and financiers, as a rule, do not like *deflation.* Under the Price System that means a business depression. The only antidote for a business depression is monetary inflation — a condition wherein there is more money than there are consumer goods. This can be induced in one of two ways, or a combination of them. The first way is the creation of a scarcity of goods by destroying the 'surpluses.' This was the antidote attempted by the Democratic New Deal during the 'thirties,' but it was a failure. While the New Deal was able to hold the deflation in check, it was not able to turn it into an inflation. Some more drastic means was needed to save political face; and a nice big war turned out to be the answer.

But, the trouble with World War II (from the viewpoint of inflation stimulation) was the complexity of motivations involved, particularly those that brought the Russians into it; for, it so happened that the Russians had no incentive for promoting an inflation and they proceeded to bring the war to an end. They were the one major element in the war with which we could not make a deal, and we have not forgiven them for it. They ended the war 'too soon.'

However, with the war over, we took what emergency measures we could. We dumped and destroyed as much of the war material and supplies as possible; and we hesitated as long as we could before going back to civilian production. (The government offered the big corporations substantial tax rebates as a bribe to hold back new production for a year or more, which they gladly accepted.) But the day arrived when industry caught up on production of consumer goods, hastened by the new machines and techniques developed during the war, and the warehouses began to bulge with unmovable surpluses. This happened sooner than was expected (the government economists had promised that consumer saturation of goods would not be reached before 1960 — but it arrived ten years before that date). With the mediocre statesmanship at the helm of government, the only antidote that could be thought up in a hurry was another war.

By the winter of 1950 another war became a national imperative if the Price System was to survive much longer. Since Russia did not accept war in Europe and the season was getting late, John Foster Dulles made a hurried trip to the Orient, and in no time at all we were involved in a 'police action' in Korea. It was widely anticipated that Russia would come to the aid of North Korea and that we would be engaged in a full-sized war. The Russians stayed home; nevertheless, we found ourselves in a full-sized war anyway — those 'backward' people had learned to fight. But the war was not big enough to destroy a suffiicent amount of the increased production of our expanded industrial capacity. It soon became urgent that the war be expanded. General MacArthur was more than eager to cooperate. But a Democratic administration was not willing to let a Republican general get the credit for this great national service, so General MacArthur was fired. His basic idea was not unacceptable to the high command, but his politics was wrong. Besides, some favorable thought was being given to the idea that a big war in Europe would be nearer home and among people who understood us better.

Now we are entering into the year 1961, and war is more urgently needed than ever. Our inflation is wobbling badly. After ten years of desperate struggle to boost prices, we have been able to achieve only a twenty per cent rise in the cost of living index. Merchants are beginning to cut prices in an effort to move their inventories. Our whole economy is faced with saturation. This is the first time in history that such a circumstance has developed over a large area anywhere. Government taxes are making the people squawk; for, during trucetime, it is not easy for a government to practice deficit spending on a scale large enough to get anywhere with 'supporting' the economy. But, where, when, and how to get another war started? That is the bothersome question.

War or no war, the government has abandoned the policy of a balanced budget, at least in practice, and is headed into deficit spending, partly to create more purchasing power and partly to head off production that is now going into consumer channels. If enough production can be diverted into war materiel, it is hoped that a deficiency of consumer goods will develop in the retail markets of the nation. This, along with worldwide give-aways, curtailed crop production, and billions of dollars of new debt, should permit the inflation spiral to proceed upward, it is reasoned, and bring gladness to the hearts of the political economists. The greatest fallacy of that theory is that it ignores the effects of modern technology on the system. It is a beautiful theory, but it won't work.

The administrators of the United States and Canada obviously want inflation but they are not able to get enough of it. France, Italy, Spain, Greece, Hungary, and other countries have had successful inflations since the war and, more recently, certain South American countries have had some beauties, so why can't we? Well, those countries have scarcity economies; that is, they can create debt faster than they can create goods. That is possible where a nation's productive capacity is low and most of the people are employed at human toil; but it is very difficult to duplicate where the bulk of a nation's goods are produced by modern machinery and its productive capacity is much greater than its distributive capacity.

Following World War II, the consumer demand for automobiles in the United States was much greater than the market supply, with the

result that a lucrative inflation in automobile prices was possible. But, now, there are millions of surplus cars on the market; the tendency is to give 'discounts' on the list price instead of ask for sub rosa 'bonuses.' Giving discounts is a trend toward deflation; and this trend is becoming steadily more evident in many lines.

'The Reds Are Coming'

The current American propaganda releases scream, as they have been screaming ever since The War, that the 'Russians are coming,' that the Russians want war, that the 'Reds' are preparing to attack this Continent. But note, it is *our* propaganda that is saying this, not that of the Russians. Frankly, we don't know what the intentions and aspirations of the Russians are; but, we suspect, they have enough problems in their own sphere of influence to keep them busy for some time to come without going around the world looking for more trouble. At least, for fifteen years now, they have avoided being provoked into war by the United States.

Moreover, the Soviet economy is making a successful adjustment to deflation, so there is no internal pressure for an outside war. The buying power of the Russian ruble is now greater than that of the American dollar, while only a few years ago it was worth only a 'dime.'

But it is argued that the Russians are building up their armaments, so they must be preparing for war. That is obvious; but might it not be that they are preparing for a *defensive* war? Suppose you had a neighbor who was going around boasting how he plans to blow up your house, kill off part of the household occupants, capture and enslave the others, forcing a different religion, different politics, and a different system of economics on them, and who was also showing colored maps and strategic blueprints of how he intends going about it, wouldn't you arm for defense, too?

We know that American public relations men are among the world's most proficient liars. They have had expert training; for, didn't they get their start in Hollywood and in business advertising? After all, their tradition goes back to that famous smoothie, Benjamin Franklin, who rose to fame as an expert in the art of kissing the right people in the right places, both here and abroad. More recently, we had Eisenhower.

American public relations has reached such a state of duplicity that, if its spokesmen and writers say 'peace,' they mean war; if they mention freedom, they mean regimentation; and if they speak of lower taxes and rollback of prices, you know right off they mean higher taxes and increased prices. Franklin D. Roosevelt was a top-notch public relations man. He was swept into office by a landslide vote after making a long series of solemn promises to the American people. As it turned out, he did keep *one* of those promises; he repealed the Prohibition Amendment. All of his other promises were brazenly violated. But he did save the Price System and the dumb American suckers loved him for it. Later, when Harry S. Truman said he was fighting inflation, we took it for granted that he was really fighting deflation, and that is how it turned out.

Shall It Be War Or Deflation?

The only obvious way of saving inflation on this Continent, within the framework of the Price System and within the mental concepts of the Price System leaders, is get involved in a nice big war with Russia. It is apparent by now that 'limited wars' and 'defense programs' are not big enough; they do not permit enough new debt to be created nor enough waste to maintain an inflationary imbalance between production of goods and consumer purchasing power. As it appears on the surface, it's either war or deflation; and nobody in government or business wants deflation. Only the consumer would benefit from deflation, and to hell with the consumer!

There is one other way, under the Price System, of stimulating an inflation which would not be obvious to political and business mentalities. But it would be very effective while it lasted — for one or two political administrations at most. Instead of wasting our resources and effort on destructive warfare, we could turn our Continental effort toward large-scale construction projects on this Continent: Install Technocracy's Continental Hydrology program; rebuild the transportation system; build a Continental Power grid; reorganize the terminal handling of bulk freight shipments, etc. These projects would divert considerable production away from retail channels and would provide as much surplus purchasing power as a full-scale war of the old vintage; and they would be controllable. The present federal highway program is not big enough.

A Still Better Alternative

Of course, there is another and still better alternative for this Continent — the way of abundance, security, and freedom from toil. There is

Technocracy. But, imagine if you can, a politician, a businessman, or an ecclestiastic who would advocate abundance, security, and freedom from toil for all North Americans in preference to war, regimentation, death, and destruction. No, if we look to these gentlemen for guidance, we shall have scarcity — in the name of Christianity and Democracy — or we'll have chaos!

It is when the *consumers* organize a social movement in support of Technocracy that we as a Continent shall approach the realization of Abundance and Security, and Freedom from toil, want, and fear. When the instituted leaders of the people betray them, it is time that the sovereign people took a direct hand in organizing themselves for a greater and more beneficent destiny. That time has arrived.

—Wilton Ivie

EDITOR'S NOTE: The above article is a reprint of one that appeared in the March, 1952, issue of this Magazine under the title 'The Low-Down on Inflation,' revised only insofar as necessary to bring it up-to-date. The message is as valid now as when it was first published.

There Ought to be a Law

Dear Senator:

Now that the Russians are the first to put a man into orbit, they can have a real live spy in the sky to look down on us and tell the world what is going on here. Of course, we're not up to any sneaky shenanigans like the Russians, so we don't mind other people knowing what goes on. But there are a few things we should be careful about. Like we keep telling the world that we have the highest standard of living anywhere on earth: and I guess most of us do. But there are lots of long lines of people waiting to get free food handouts in our distressed areas. I don't think it would do us any good to let the Russian spies in the sky see too many of them.

So this is what I suggest you do. You pass a law making it unlawful for people to line up in the streets to get free handouts. We have lots of big empty buildings which used to be factories where free food and other things could be given out under cover. Then, if the Russian spies don't see any bread lines, they will think that we are all well fed and happy over here.

Another thing, we have a lot of awfully dilapidated looking buildings in our cities and towns which are an eyesore and a disgrace. I think they should all be leveled. That would be a good job for the army; they know how to do it. Then, all the spaces where the old buildings stood could be filled up with our millions of surplus shiny automobiles, both the new ones and the second hand ones, and the spies would have to report back that we are extremely prosperous over here. That will convince them that it is hopeless trying to convert us to communism. Maybe some of the spies will want to come over here to live.

If you can't lick them, trick them, I always say.

Sincerely yours,
BEETLE BRAYNE

At the Brink of Catastrophe

Detroit News, March 8, by Philip Deane—United Nations, N. Y.—Imagine the world's wealth as a room 12 feet by 12 feet and the world's population as 16 people. One of these people is the English-speaking North American, and he has half the floor space—72 square feet in all.

Five people represent the developed countries. These have 62 square feet of floor space. On the remaining 10 square feet stand 10 people. These are the underprivileged, the hungry, the envious and the impatient.

This is roughly how the world looks from the 38th floor of the United Nations Building. The problem cannot be solved with a more equitable distribution of floor space, because the 16 people are reproducing and doubling every 50 years.

During the course of development they will pass through a transition stage when births stay high and deaths drop. We can count on another 50 or possibly 100 years of uninhibited growth, by which time the underdeveloped 10 in our room will have become 50 or more. The well-to-do cannot sit back and watch the rest asphyxiate.

The primitive man's son soon learns to use electronic computers and subatomic particles. The new technology makes machines that make machines; soon there will be machines that design machines. This, however, does not mean that China can give each of its families a modern kitchen; it does mean that Chinese scientists can build hydrogen bombs and will do so soon.

Man has shown unspeakable savagery when fighting for room to live in. It was in name of lebensraum that Hitler murdered millions. Now Mao Tse-tung asks why he should fear a nuclear war when he has men to spare.

Faced with the ravenous and the envious across our symbolic room, we cannot rest easy, says the UN Secretariat. The slightest incident could lead to the end of the room itself. Inevitably we must build tiers within our room to accommodate those 10 who now have only 10 square feet of space.

Some statistical trends show that 400 years from now there may be no more than one square yard of dry land for each person on earth, counting mountain tops and deserts. If arable land alone is considered, the limit may be reached by the grandchildren of people alive today.

Those who need the tiers most have too little to eat, too few tools and little skill. The richer must provide materials, skill and a blueprint. In political systems there are two rival blueprints among the better off—the democratic and the Communist.

The Communists say that their blueprint is more suited to the job because they learned by solving the problems that poor nations face. This may not be entirely true, but it often sounds convincing to the underdeveloped peoples.

The West still have a chance to prove its blueprint better. The trouble is that the West is not too clear about the nature of is own formula and the forces that keep it functioning. It has obviously worked, but its masters are not certain how, nor can they guarantee it will continue working effectively.

Through the struggle to make more living space for the occupants of the crowded room, there will be much waste effort in keeping the occupants armed for defense, while they constantly try to devise some agreement so that knives can be at least blunted or limited in number.

In the tension, everyone's nerves will be constantly strained so that minor fights will often break out. The fear of mass slaughter will weigh on all and make tempers worse.

In its efforts to organize itself for a task that may be beyond its capabilities, Western democracy could so regiment its society and build a bureaucracy so vast that its momentum or inertia would be mightier than the will of the people. It would then not be far from the system of its main opponents. Or it might simply fail and they might succeed.

To avoid such a fate the West must understand its own condition; understand, especially, the great lines of force, of hunger, birth, deaths, resources and technology.

Are our media of mass communication adequate to keep us informed? Are they perhaps too dependent on commercial appeal and therefore too escapist in their content?

These questions are being asked by the wise men who view the world from the 38th floor of the UN. They are desperately concerned with the job of letting mankind know how near to catastrophe it lives.

(Editor's comment: Science, politically, financially and ecclesiastically administered and controlled has thrust this problem on the world. Science, and science alone, without the interferences mentioned has any chance of solving the problems. Education, birth control through such a means as an oral contraceptive, wise use of land and available resources will help. Certainly, exploitation of the have nots by the haves must cease. As Americans, let's solve some of the glaring problems at home and then try to export our ideas. Many of our present practices are not exportable.)

MAGIC—*Continued from page 2*

the market as though the market were a sentient being. The ecclesiastics prate of close contact with a divine being, of his care for the welfare of whichever nation the ecclesiastic is attached to, his intercession being necessary for the continued welfare of his nation. Are we so different from primitive man? Have we progressed?

Both the economists and the ecclesiastics have been blind either wilfully or by intent but, considering the background of each and how they came into being in society, perhaps they can be pardoned. While they have been practicing their art, there has been growing another force even greater, a new force which is making all previous methods of interpreting our place in the world obsolete. This is the introduction of the scientific method.

In contrast to the economist with his statistical approach, and the ecclesiastic with his moralistic approach, the scientist in conjunction with the engineer has been observing, measuring and recording until he has discovered the laws which govern much of nature. Applying these laws to the means whereby man lives, they have made it possible for man to produce an abundance of those material things necessary for his well being.

Herein lies much of the trouble in which we in America find ourselves. Along with the antiquated methods of the economists and ecclesiastics there have grown up concepts of ownership, morality of work and many others, fostered by all the precepts which have grown throughout ages of scarcity until now man cannot think in anything approaching terms of abundance. Attempting to apply the ideas of a scarcity period to the new period of abundance has him now thoroughly confused. He can sense that something is radically wrong with the current methods, but what?, stymies him. The economists now in the saddle tell him that it is growth he needs, to increase productivity, even though it is apparent to even the least observant that we don't know how to distribute an ever-mounting surplus of all goods. The ecclesiastical moralist tells him our troubles are because we are drifting away from the precepts of the Bible. None seems to be aware that a further application of the methods of science could, if unhampered by business, politics, clericalism and all the other impedimentia which grew up in an age of scarcity, bring us into a new age of abundance. Have we grown more intelligent? Shouldn't we sometime come to the realization that the methods which got us into the mess are not the ones to use to get us out of it?

Technocracy has a blueprint for the production and distribution of an abundance and it is worthy of a great deal of study by all concerned Americans. Technocrats themselves have no idea of getting in control. What we know is that there are here in America scientists, engineers, technicians, all kinds of trained personnel who, having built this present productive system, must assume the responsibility of operating the whole complex so as to achieve a balance between production and distribution. It must distribute this abundance to every citizen on the North American Continent, accomplishing this with a minimum wastage of our irreplaceable natural resources, minimum of human toil and provide a high standard of education, public health and security from birth to death. All these and many other benefits are provided for in Technocracy's blueprint. Don't you think you should be finding out whether what the Technocrats are saying is true and, if true, working with them to bring it about?

—Leland Proctor

RESEARCH BULLETIN

"Suckers Sucked Dry"

Labor Herald, Feb. 3—The tax bill now up for consideration which proposes to amend the present sales tax law, to tax the food in restaurants and lunch rooms, will exempt the food tax on meals prepared by the Salvation Army, such as is going on in Hagerstown.

Those meals are not in the 25 cent class and are not to be included in the proposed amendments by the General Assembly to apply to the souplines.

The old song: "Don't sit under the apple tree with anyone else but me," will now have the following lines: Don't eat more than a 25 cent meal or we will tax you!

What a pity we can't see ourselves as others see us.

Here we Americans are the bravest, the richest, the greatest nation in the world, and we act like we were in the Congo.

The giant corporations are laying off tens of thousands of their workers for "one week" at a time, in city after city, and the Maryland Legislature will stop the unemployment insurance payments for the first week that the worker is out of work.

Who will buy the food, pay the rent and otherwise take care of the unemployed worker's family, for "one week"? Suppose this one week business goes on a monthly basis, what then?

They tell us a man should be able to take care of himself for one week; that's fine advice from those whose bellies are full. But what about the moral and/or legal rights of those laid off for one week at a time?

Either we live under the golden rule or by the rule of dog eat dog. Which shall it be?

More Workers Than Jobs

Los Angeles Mirror, Jan. 30—California's labor force grew faster than job opportunities in the state last year, employment director Irving J. Perluss reported.

Perluss noted that a 4% jump in the labor force to 6,404,000 last year outstripped the 3% increase in the number of employed to 6,072,000.

He reported two weeks ago that the number of unemployed persons in the state averaged 6.1% of the labor force during December. Current indications are that unemployment in the state may be 8%.

The number of agricultural, lumber and fishing workers declined 3.8% last year. And the number of miners declined 2.9%.

Average unemployment last year was 5.2% of the total labor force, almost 1% higher than 1959.

"The state needs about 250,000 new jobs a year to keep pace with the growth of the labor force," Perluss said.

Last year's gain in job opportunities was half that.

University of California, Jan. 31—America's young adults are more likely to be in divorce courts, in prison or in need of psychiatric aid than any other age group in the U. S., according to the Survey Research Center, University of California, Berkeley.

Always Read the Fine Print

Federation News, Jan. 28—Weaknesses of commercial health insurance have been pointed up dramatically in the current issue of *The Machinist*, official weekly publication of the International Association of Machinists, which reproduced on its first page a letter sent to a retired worker cancelling a policy he had held for 27 years.

The letter sent by the North American Company of Chicago, advised the retired IAM member of the company's 'inability to continue your insurance.' It reached the unionist on his 70th birthday.

The unionist—a member of IAM Lodge 38 here—wrote that he had been paying on the policy since 1938 and had never collected a penny in benefits. "If I had paid that amount into social

security," he told *The Machinist*, "I would have something for the future."

The IAM publication said the situation, a typical one facing older people, points up the importance of labor's drive for enactment of legislation providing health care for the aged financed through the social security system.

(Why not go all the way and support Technocracy's plan for complete medical and hospital care for every citizen without cost, and without regard to race, creed or color?)

Declining Resource

Los Angeles Times, Feb. 12—Licensed imports of crude oil and oil products averaged 1,600,974 barrels daily during December, the Interior Department has reported.

This did not include 117,256 barrels daily imported from Canada under exemption from the import control program.

Imports from Canada reached 137,241 barrels daily during November, the highest for any month since the exemption became effective in June, 1959.

Canada recently announced plans to increase its exports of oil to this country.

No Depression in Canada?

Hamilton Spectator, Jan. 17—Labor Minister Starr said last night the idea that Canada's problems can be solved simply by pumping in federal money is "rather naive."

In many cases, he said here in a speech, this would only aggravate the situation.

"What is required is an overall economic program designed to implement both long term and short term benefits—"

He said there has been a "powerful propaganda campaign" under way in Canada to convince Canadians of two things—that the country is in a depression and that the government is doing nothing about it.

"The fact is that we are not in a depression—nor are we likely to be.

"As to the role which the government is playing, the action which we have taken and are continuing to take is the best answer to a charge of inactivity."

The labor minister cited the government's recent anti-unemployment measures, its efforts to expand business, to stabilize the economy and maintain the upward course of economic growth.

The government's program, he said, calls for new directions in economic thinking, in economic planning and in combined economic action.

"Do not let the word 'planning' frighten you," he said.

"This is not the master plan of the socialists calling for regimentation and control."

"This is the kind of planning which a free people can undertake through voluntary and concerted action on all fronts by all segments of industry, labor and management."

(Reports reaching us from all over Canada tell of widespread unemployment, bankruptcies, and actual suffering. It seems that the minister protests too much.)

Another Price System Trend

Hamilton Spectator, Jan. 30—A merger of the Northern Pacific Railway, the Chicago, Burlington and Quincy Railroad Co. and the Great Northern Railway has been approved by directors of the railroads.

The proposed merger also includes the Pacific Coast Railroad Co., a wholly owned subsidiary of the Great Northern, which operates in the Seattle area.

Under the arrangement, the railroads will make up a corporation to be known as Great Northern and Burlington Lines Inc.

The corporation plans to lease for 10 years the Spokane and Seattle Railway, owned jointly by Great Northern and Northern Pacific.

The plan will be submitted to the various stockholders for approval at their annual meetings, subject to authorization by the Interstate Commerce Commission.

Union officials estimated the merger will affect 8,100 employees.

The railways included in the unification plan operate nearly 25,000 miles of line in 17 states and Manitoba and British Columbia.

More Installed Capacity to Produce, What?

Wall Street Journal, Jan. 23—New York—The electric industry has more than 40 million kilowatts of new capacity on order and scheduled for service, about 85% of which is to be in operation by the end of 1963. This was reported in the 1960 Year-End Summary of the Electric Power Situation in the United States just completed by the Edison Electric Institute.

At the end of 1960, the generating capacity of the total electric utility industry of the U. S.,

excluding Alaska and Hawaii, reached more than 175 million kilowatts. This was 7% more than the capacity at the end of 1959.

Prepared by the Institute's Electric Power Survey Committee, the summary is produced in cooperation with power systems and equipment manufacturers throughout the country. It constitutes the most complete compilation of data available so early in the year. The report presents information on the electric power supply, expansion of electric generating facilities, and production of heavy electric power equipment in the U. S. as of the end of 1960.

In 1961, some 12,455,100 kilowatts are scheduled to go into operation—8.6% more than reported by the survey of last October. Capacity additions scheduled for 1962 have increased 1.1% since last October while those for 1963 have increased 17.7%.

Information on power supply presented in the report covers the total electric utility industry, including investor-owned utility systems and those of governmental agencies.

(As only a small proportion of this will be used by individuals, the rest being used in industry, and as each kilowatt used is equivalent to the labor of 13 men to produce more abundance, the question arises: what shall we do with more when the flow lines of commerce are already clogged?)

How to Create Jobs

The Machinist, Feb. 2—Unemployment—believe it or not—created some jobs last year. Bill collectors got the work. A 7% increase in the number of bad debts turned over to collection agencies in the U. S. last year due to higher unemployment, the American Association reports. The average debt referred to the collectors rose from $56.87 in 1959 to $62.67 last year.

People Don't Think

Western Producer, Open Forum, Jan. 19—(Letter to the Editor) Sir: Peace on earth, good will toward men! At this time of each year these seven words are spoken millions of times. They are uttered by millions of people who are acting like parrots. People are not thinking. Brain is the supreme part of human bodies and the part least used. I say this because I believe the people in North America want peace. But for them to go around chanting, "Peace on earth," is foolish until they study, think and start action on gaining peace and preserving it.

On October 29, 1960, the following appeared in the New York Times. "The greatest threat that faces America today is the chance that Russia's Nikita Khrushchev may come forward with a genuine peace proposal that cannot be refused," said T. Coleman Andrews, president and board chairman of the American Fidelity and Casualty Company of Richmond, Va.

In plain language, a man highly educated in business and finance says the capitalist system which is ruling Canada and the U. S. cannot function in complete peace. If all preparations for defense were stopped financial conditions would be impossible to cope with.

To better understand this, think of the 30's, the 40's and the 50's. War helped North American living conditions, didn't it?

William Irvine, an honored citizen of Alberta, visited China last summer. He says that the most important achievement of the Chinese revolution was that 500 million peasants now have obtained the right to use the land for the Chinese people rather than for the landlords. As a result of this, although the average diet still lacks protein, China for the first time in 4,000 years, is able to feed itself.

Do we as a nation feel "good will toward men" when we vote against giving the people of China a voice in the UN? And more to our shame we sanction the membership of Chiang Kai-shek, the "scrooge of China." Better make a new year's resolution, "to do more thinking."—Mrs. Nellie Rabourn, Eastend, Sask.

An Opiate to Ease the Pain

Hamilton Spectator, Jan. 11, Washington—AFL-CIO President George Meany said today the United States was on the brink of the "gravest economic crisis" since the depression of the 1930's and called for a sweeping eight point anti-recession offensive.

In a letter to congressional leaders, Meany termed current unemployment and production rates "alarming" and said: "The long run outlook is even grimmer."

When the population increase of the next ten years is combined with layoffs caused by automation, "the job problem assumes almost terrifying dimensions," he wrote.

He called for $300 million in federal grants to states and communities to cover 15 per cent of the cost of public works projects. He said this would generate $2 billion in public works construction.

He also proposed emergency supplementary unemployment benefits of about $205 million a month, and tax relief for small businesses, and urged Congress to grant the President authority to cut personal income taxes by $10 a week whenever unemployment exceeded 7,000,000.

(Organized labor has been so job minded that it has never realized that what it really wants is income. And this is just what the Price System is not capable of supplying. Only a society based on function can do this.)

The Problem Is Again Stated

Regina Leader-Post, March 6—The age of plenty is at hand and its fruition awaits only development of economic theories and instruments consistent wtih the "plenty concept," Dr. Ralph Staples of Ottawa, president of the Co-op Union of Canada, said. —But it will take time to shed the fear of scarcity, he said. "The production complex still dominates us."

In the face of chronic scarcity, the acquisitive instinct became over-developed and protection of property became an obsession. There resulted the supply and demand theory and the competitive system.

One of the most distressing results of the ages of scarcity is that emphasis was placed on production, he said. "Much of our effort is aimed at protecting our interests as producers, by means of marketing co-operatives, professional associations, labor unions and farmers' organizations."

With abundant fuel and automation the last real obstacle in the way of unlimited production is solved in theory. Humanity must address itself to a concept consistent with the age in which necessities can be plentiful and inexpensive. . . .

"We must challenge in its deepest fundamentals the supply and demand theory of economics in which we have been schooled." A new attitude must be adopted instead of going forward to the age of plenty as if plenty were a disaster, with attempts to maintain scarcity so that old economic laws will work and using tariffs, production controls and limits on the productivity of workers. . .

(The tragedy here is that one who sees the picture so clearly should not go the last step to the answer. The ideas proposed by Technocracy to meet these conditions is now some 28 years old and any intelligent person should know them.)

Washington Post, Oct. 3. 1960, Clarksburg, Calif.—A machine that can pick 100 tons of tomatoes a day was demonstrated here yesterday.

It won't strike or picket and scientists said they are near inventing a tomato suitable for it to pick.

When they do, they look for quick automation of California's $250 million tomato harvest, possibly by 1962 or 1963.

With a crew of 13, the machine can do the work of 60 men. It could cut the picking cost by 25 to 30 per cent.

If it costs $15,000, it could pay for itself in three years on a 100-acre farm.

The machine scoops up the tomato vines, shakes off the tomato and carries it on conveyor belts into tractor drawn boxes.

The chief problem now is the tomato.

Prof. G. C. Hanna of the Davis branch of the University of California has been working on that for 10 years. He said he's nearly got it.

The tomato must ripen all at once, have a small vine, a tough skin, sufficient size and be adaptable to successive plantings so the machine can move from one field to the next before the tomato is overripe.

The Political Game

Roll Call, Dec. 7, 1960—From Congressman James L. Whitten (Miss.) comes this description of the legislative process:

"All that anyone wants is a fair advantage. Each believes in what he wants and wishes others to agree it is fair for him to have it. The best way to have an advantage declared fair is to pass a law that so states. Thus the fight to have advantages declared fair by law is perhaps the best capsule description of every session of Congress since the very first."

Machinery May Supplant Traditional Hand Labor in Nation's Tobacco Lands

Washington, D. C.—Machines now under development may one day relieve the nation's 750,000 tobacco farms of the hand labor now required to "make a crop," says the current issue of *Tobacco News*, published by the Tobacco Institute, Inc.

Stephen E. Wrather, director of the Tobacco Division of the U. S. Agricultural Marketing Service, writes in *Tobacco News* that hand labor required in tobacco fields today is nearly the same as when tobacco-growing started in this country.

Tobacco demands from 300 to 500 man-hours of hand labor per acre compared with an average of eight man-hours for an acre of wheat, he writes. Tobacco growers also find field labor increasingly hard to find.

Today, agricultural colleges at three tobacco-state universities are working on the mechanization problem. University of Kentucky researchers have developed a method of pelleting tiny tobacco seed in clay so they can be planted in the field by a mechanical planter. They are also working on two mechanical harvesters.

A leaf picking machine is being developed by the University of Connecticut for cigar-binding leaf grown in the Connecticut-Massachusetts area. At North Carolina State College, experiments are under way in bulk curing of packed leaves, a method which would eliminate the laborious stringing of leaves on a stick, the age old method.

Feed the Hungry

St. Louis Globe-Democrat, Feb. 24—St. Louis has some 30,000 families who are hungry enough and poor enough to get free surplus food from our bulging bins—if the state government will help pay to distribute it. Arthur K. Atkinson, chairman of the St. Louis Advisory Board of the Salvation Army, recently made a plea for a food-distribution program. It should have shocked the most complacent citizen or lawmaker.

Mr. Atkinson said: "It is almost incredible that in one of the largest cities (St. Louis) in the richest country in the world, hundreds of people are literally starving."

Forty-five states have a surplus-food program in operation including Missouri. Two of the states pay the entire cost of distribution. Illinois pays the entire cash cost, with the counties that benefit contributing the labor of their able bodied men who are on relief.

Missouri pays nothing. The entire cost must be borne by the city or county that distributes the food.

St. Louis officials have appealed to Jefferson City to meet the city half-way on the cost of getting the free surplus food to the hungry men, women and children who need it.

Newark Star Ledger, Washington, April 4 (UP)—More families lost their homes through foreclosures in 1960 than in any year since 1941.

Foreclosures jumped 17% above the 1959 level. Small rises of 2 and 7 per cent in the first two quarters mounted to leaps of 26 and 33 per cent in the last two quarters of the year.

This pattern is explained by the fact that the economy, after reaching a record high in the spring, eased into a mild recession in the remainder of the year. Breadwinners who had been laid off fell behind or further behind on their payments. (By now, most government economists say, the business slump has touched bottom and an upturn may be beginning.)

(Characterizing what has been happening to our economy as a 'mild recession' may be very satisfying to the Government economists, safe in their 'Ivory Towers,' but to the six to seven million Americans who have become unemployed from whatever cause, it is definitely a depression.)

New York Times, April 19, Ottawa (AP)—More than 11 per cent of Canada's labor force was unemployed in March, the Bureau of Statistics estimated today, but conditions were a little better than in February. The total at mid-March was 705,000, or 11.1 per cent, against the postwar high of 719,000, or 13 per cent, in February.

(Too few ciitzens of USA realize that what affects Canada's people can and will affect us. The enormous U. S. control of capital investment of U. S. corporations in Canada make the two people as one.)

Automatic Spinning Process

Los Angeles Herald Express, Feb. 13—An historic achievement rivalling the invention of the cotton gin, the completion of a continuous automation cotton spinning system has been developed by the Toyo Spinning Co. of Japan, according to word received here by Kenji Hatanaka, manager of Nikko Kasai Securities Co.

Immediate steps are to be taken to secure patent rights in 12 foreign countries, including Great Britain and the United States, Hatanaka said.

The continuous automated spinning system process is capable of producing finished cotton yarns from raw cotton and will eliminate all human labor required in doing the same job through five to eight stages, including mixing and carding. . . .

(This process will undoubtedly be exported to the U. S. and will thus affect the employment of our textile workers, who are already under employed. It will also increase the output of the machines again pointing up Technocracy's thesis that the only way to increase production is to remove the human being from the process. It is not more jobs for human beings that is needed, but a more effective method of distribution of the abundance that technology makes possible.)

Proposed Hydro Network Linking Alaska, California

Edmonton Journal, April 18, Portland (CP) —A network of hydro schemes stretching from Alaska to California was envisioned by Lands and Forests Minister Ray Williston of British Columbia when he addressed the Pacific Northwest Trade Association conference here Monday.

He said a vital part of the plan is the export of B. C. power from developments on the Columbia and Peace Rivers.

"There can be no logical reason for Canada to continue the artificial boundary barrier to the export of hydro energy," Mr. Williston said.

The international grid he proposed would serve the Pacific Northwest and California. There will be heavy demands for more power after the 1970's but planning, engineering and construction of new sources should begin as soon as possible.

Mr. Williston proposed a system of "shunting" blocks of power south to U. S. markets instead of transmitting it directly to those markets. An international export inter-changes system between the various sites would handle the "shunted" power.

It would come from the Columbia, Peace, Laird and Yukon rivers in B. C. Mr. Williston dealt with each step in the northward march to develop them.

He said engineering and planning on the Columbia will be completed by mid-summer. Premier W. A. C. Bennet and federal Finance Minister Donald Fleming are working out the financing.

He suggested that at-site power generation on the Columbia may be developed more quickly than planned and the surplus energy would be exported.

Mr. Williston said the Peace River, with its greatest power potential, would be the next step north. Cheap at-site power would attract new industry and as a by-product power would also be exported south.

Next would come the Liard River in northeastern B. C. Its 4,000,000 kilowatt potential could be shunted to the Peace, and Peace power in turn shunted south. Eventually Yukon River power would come down to the Liard.

The success of the entire scheme would depend on relaxation of the current Canadian ban on exports.

"International policies based upon goodwill and understanding should allow for a maximum use of the sources of renewable energy so long as the regions of origin receive priority as to need and price," he said.

(The plan of the development, transmission and use of power from renewable energy has been a prime proposal of Technocracy (see Power for a Continent) for years. Piecemeal development can only result in a botch. No Price System advocate can conceive of the possibilities and Price System politics and finance can only be an interference (see also, Technocracy's "A Continental Hydrology").

More Computer Control

Edmonton Journal, April 19—An IBM electronic brain, second in the Canadian National Railways system, will be installed in the mountain region headquarters in Edmonton this fall. This was announced here by Dr. O. M. Solandt, the CNR's vice-president for research and development. The computer will be smaller, but equal in capacity, to the "brains" in the Montreal head office.

"It is possible to simulate the operation of the entire railway on the computer," Dr. Solandt said. "The machine can simulate problems that are too complex to express mathematically.

"One of the major problems has been the distribution of our 40,000 boxcars. In moving western grain the distribution has had to be done by guesswork. The computer can tell us how many cars we need, where they should be spotted, how many trains will be needed, and how best to schedule them. With all our freights now running at better than 50 m.p.h. scheduling of extra trains has to be more precise."

Within two years the computer will make possible what Dr. Solandt calls "centralized traffic control." He explains that it will make it possible for one controller at region headquarters to run the system like a model railroad. He will be able to see electronically the whole region at once.

In planning a new line the computer can show the best locations for sidings. The Montreal computer saved the CNR $150,000 by eliminating unnecessary sidings on a new branch line in Manitoba.

The computers in service have helped greatly to solve the problem of accurate cost estimates, he said. Calculations that were too tedious and time-consuming to be attempted before can be done in minutes by the electronic brain.

"Of interest in this area." Dr. Solandt said. "is the way the computer solved a problem involving the transportation of meat. Sides of meat were tearing off the hooks in the boxcars and falling on the floors. The computer showed that it happened only when the trains were moving at more than 50 m.p.h. It also showed that the cause of the tearing was a shock wave of a certain frequency coming up from the trucks. It told us how to design a simple shock-absorber system to damp out this frequency.

"We have now built this simple system in 100 cars—at a cost of only $400 a piece."

Who Owns the U.S.A.?

Whenever American corporations want something for themselves like a cut in taxes or special privileges of one kind or another they tell us that we ourselves will be the gainers—that after all it is we, the American people. who own the very corporations that play such a leading role in our economic and political life.

Actually we do not own the corporations—just a handful of us do. We are told that this is the age of "people's capitalism," but the statistics show that it isn't so.

A newly published and impartial scientific study by the Survey Research Center of the University of Michigan shows how far we are from being a country in which we all own the corporations and profit by their profits.

* Less than one out of every seven families own any stock at all in corporations.

* Only six per cent of the families having income of less than $5,000 a year own stock. This includes the vast majority of working people whose incomes are less than $100 a week.

* On the other hand 36 per cent of the families with incomes of between $10,000 and $15,000 own stock.

* While 55 per cent of those with incomes of $15,000 and over own stock.

Even these figures don't tell the full story of who owns our corporations and so are the beneficiaries of dividends and stock splits.

* Less than six per cent of all families in the United States own two-thirds of all the stock in our business corporations. On this basis less than six percent of all families in the United States collected $8.8 billion of the $13.2 billion in dividends distributed last year.

This concentration of ownership refutes completely Charlie Wilson's famous remark that "What's good for General Motors is good for the United States." What's good for the small minority that owns General Motors may be good for that small minority but may not be good for the rest of us. This is true of any other corporation, too.

There is a second aspect to this concentration of power within the hands of a relatively small group. In the course of the years and with the rise of managerial groups that run our corporations, even the actual owners of corporations—a small group to begin with—are far less from the controllers of the very corporations they own. You have only to read accounts of corporation stockholders' meetings to know how little real democracy there is in corporation management.

For it is not stock ownership itself that tells us who runs American business so much as the management power within these corporations. The modern American corporation is a tight body run by officers, fortified by legal contracts including, in many cases, provisions for stock bonuses and extravagant retirement pay. Regardless of whether they own stock or not, these officers are responsible mainly to virtual self-perpetuating boards of their own people. They represent and are, in fact, the corporation itself. They constitute a degree of concentrated economic power not found anywhere else in the nation.

Finally, to compound the immense power of a relative handful of stockowners and of an even smaller number of corporation officers is the American failure to ride any kind of effective

herd on corporation activities. We permit giant economic entities whose actions affect us as a people and a nation, to incorporate themselves in states such as Nevada and Delaware which haven't the faintest control over what goes on except to collect corporation fees and license payments.

Except for scattered federal and state agencies utterly inadequate to the task, there is no real policeman to police some of the most powerful forces in the nation itself.

During the past several years there have been strong efforts to set up a kind of businessman's government centering on the Wilson idea that what's good for business is good for us. The Chamber of Commerce and the National Association of Manufacturers tell us that we must put our faith in business and presumably in the corporations that represent so much of our business.

Yet it now turns out that only one out of every seven families in the country have an actual stake in our corporations and that the direct, private stake of six out of seven American families in these same corporations is exactly nil.

—Journeyman Roofer

The Silliest Performance on Earth

Can you visualize a constant stream of people trying to work their way to the top of a long steep hill? Some of the people are burdened and hampered with small children who must be carried or led by the hand. All of the people, except the smallest children are carrying sacks with the $-sign on them. As the people progress up the hill, they must continuously reach in their sacks and take out coins and paper money to pay for food, and drink, and shelter, and places to rest. The farther up the hill they go, the more these things cost. So the people are all the time striving and finagling to get more money to put into their sacks. Some of it they earn from helping others; some they get from friends and relatives who die along the way; some they find; some they borrow; some they steal from others. Those people who had the most money to begin with and who are most aggressive and ruthless in getting it away from others, have the best chance of getting to the top. Those who get low on money have to turn back and go down hill a ways to where things they need are cheaper. Those who spend or lose all their money must go all the way back to the bottom, where they have to beg for handouts.

Many of the people become weary from the struggle and have to pause along the way. Their children cry for the things they see other children have. The older children get married, get money sacks of their own, and continue the struggle upward. Many of the people become stagnated on the way, being too weak, too sick, or too poor to continue on. When they need help, those who offer to help them usually charge big fees. Others sometimes help them, out of the kindness of their hearts; but not many will do that because it slows them down in their climb to the top; most of them just go on without stopping to offer help. In the long run, most people never get to the top, only a very few make it all the way. Most of the others die or give up along the way, wrecks in the struggle for money and the prestige that it buys.

For hundreds of years, money has been the main interest of mankind and the principal topic of conversation. But, just what is money? Professor Soddy of Oxford University once defined it this way: 'Money is the nothing you get for something before you can get anything.' Money is nothing in that it merely represents a promise to pay, which is without substance. To give it the appearance of substance, money is usually attached to some kind of token—metal or paper. The token may be engraved, as in the case of currency, or it may be 'created' with some pen strokes on paper, as in the case of a check or an I.O.U. Before you can obtain food, clothing, shelter, or services from others, you must pass along one or more of these tokens of money—promises to pay —to that person. He then has the 'nothing' which he must possess before he can obtain anything he wants.

Since money is used all around the world, it would seem to be indispensible to man. But actually, in itself, it is of no use or necessity. The tokens may have some use as paper or metal; but the promises they represent are as flimsy and useless as hopes and wishes. It is difficult for one, conditioned to the use of money all his life, to

conceive of a society in which money would not be used. The money superstition has become a serious handicap in one's struggle through life. Getting the money is the difficult part; that is, getting others to pass onto you their promises to pay. You must obtain something they want and give it to them first.

Under conditions of scarcity, money served a social need of a sort. It enabled people to make exchange transactions in a less cumbersome manner than under direct barter, and it permitted greater complexities of exchanges. It was when the money, itself, became a negotiable commodity and certain people began getting ahead by manipulating and exchanging monetary tokens that the mischief began; then, the handling of money became a racket. People were trampled under, wars were fought, and countries sold out for the sake of money.

What a rat race it has been, from one generation to another, to acquire the tokens of promises to pay—paper and coin. For this elusive stuff, basically decent people have cheated, lied, stolen, and killed. Yet, in itself money is without substance or use.

In the struggle for money, we often lose sight of the many good things of life. We forget how to relax and enjoy the world around us in a contented frame of mind. Howard Scott, Director-in-Chief of Technocracy, has stated it aptly when he said: 'The injection of monetary concepts into all discussions of material wealth and income wholly confuses the people as to the actual issues at stake and serves to act as a screen behind which, with a little word juggling, our business and political operators of the Price System can carry on their profitable activities without being too greatly embarrassed by outside interference.' Then he goes on to say that it is high time that every citizen of the North American Continent understood the real nature of our wealth and income.

Fellow Citizens of North America, our Continental wealth and income consists of our resources, our technology, the trained and efficient personnel which knows how to operate our technological equipment. Our social objective should be a society of healthy, capable, functional people, not the pursuit and accumulation of money. The Price System brings out the most vicious elements in human nature; and its use on this Continent has made it the land of the *fee* and the home of the *knave*.

Now, the people of North America are living under very different conditions than any that ever existed in the past. We no longer live under circumstances of severe scarcity. Today, thanks to science and technology, we live in an economy of near-abundance. This development has mandated a change in our pattern of social operation.

Science, the methodology of the determination of the most probable, and technology, the application of science to human use, have created a world far different from that of the politicians, the money-changers, the traders, and the witch-doctors —have created a world in which function takes precedence over values. This new kind of world is the one which Ex-President Eisenhower, Ex-Vice President Nixon, President Kennedy, and Cardinal Spellman fear and despise. These men are all devoted to the Old Order and to the silliness that goes with it; they refer to the New Order contemptuously as 'materialistic'—which it is, and which is all right with us.

Technology and engineering have demonstrated that they can produce an abundance of goods and services, prolong life, and provide comforts far beyond anything that the Old Order ever dreamed of. This great wealth is mishandled, wasted, and denied to the needy because the distribution process is still in the hands of the people who deal in monetary values.

The answer to this dilemma is the application of technology to the processes of distribution as well as to production; then, abundance would be available to all, regardless of race, sex, color, or previous condition of servitude. Technocracy, the application of science to the social order, is the only correct answer to the problems which confront us. It is the design for a functional society; it has nothing to do with business or politics. Nothing like it has ever been offered to any people anywhere before.

It is never too soon for North Americans to become acquainted with Technocracy's design and to put it into effect—but, soon, it may be too late.

—Olga Sawyer

Los Angeles Times, Jan. 29—Easy credit has turned the Los Angeles area into the "bankruptcy capital" of the nation.

In the past six years the number of bankruptcy petitions filed in federal court here has nearly tripled—from 6,148 in 1955 to 16,690 in 1960.

Only slightly more than 10% of these cases involved business. Nearly 89% were individual wage earners—truck drivers the largest single class by far—who have overextended their credit.

Propaganda for Calamity

There is a concerted propaganda campaign spreading through the Western World, particularly the United States and some parts of Western Europe, which holds that nuclear war is likely; that if the choice is between nuclear war and communism, war is to be preferred. In order to make this line of propaganda more palatable, a special effort is being made to 'prove' that the West can win the war; further, that it can emerge with its business system, its property rights, its political governments, and its ecclesiastical institutions intact and capable of resuming the prewar way of life.

But in the areas of the West there are some serious-minded people who have more interest in what is going on than merely 'who won the ball game.' They see the real danger in letting individuals afflicted with megalomania run loose while at the same time they are empowered with the means of bringing destruction by nuclear holocaust down upon civilization. They also see the dangerous effect that continuous propaganda for war is having upon the attitudes of the multitudes —the propagation of mob psychology toward acceptance of events that could lead to mankind's final hour.

Americans are suckers for propaganda. They have been raised with it, and they endure it in large doses daily in the form of commercial advertising. They think it is a way of life, that it is the normal way things should be. They were euchred by propaganda into World Wars I and II. So what? Those wars pulled the country out of economic depression and brought prosperity to the land. So what's wrong with war? Besides, what can the individual do about it anyway? That is their fatalistic trend of argument when they do get around to expressing themselves at all.

A few of the more intelligent people will analyze the propaganda, detect its semantic errors, and reason that there is something that the individual can do; that is, meet propaganda with counter-propaganda. Many of these probably overrate the effectiveness of this approach in their anticipations; they assume that people react according to intelligent appraisal of things. This seldom happens. If the priest, for example, says war is preferrable to communism, then it shall be war. That is as 'dynamic' as their thinking ever becomes. They let others think for them; and it is very easy for their traditional mentors, therefore, to swing them into a frenzy of fear and hate against an alleged enemy whose victory would mean a 'fate worse than death.'

A clever device for bringing forth an expression of enthusiasm in support of war is the 'logic' that the enemy can be deterred from 'aggression' by a show of force; that a solid front of citizenry to back up the brinkmanship of the leaders will force the enemy to reconsider committing aggression against our side. Of course, once the people are whipped into a frenzy for deterring aggression, it is only a short step to persuading them to applaud an actual act of aggression on our part. This is called 'preventive war,' meaning a war in which we prevent the enemy from being the aggressor by starting the war ourselves.

Cold War propaganda contains just enough factual information to impress the more gullible listeners with its authenticity. The Americans are most gullible for this kind of camouflage; literate foreigners are more skeptical, and they heavily discount our statements. One trouble with American propagandists is that they believe their own lies; and, believing the lies themselves, they think that the rest of the world should swallow them completely and unreservedly. Consequently, the stuff that goes over the air from Radio Free Europe and the Voice of America is disgustingly crude.

This Free World propaganda supports the tyranny of the few over the many. It staunchly defends corporate enterprise; it accepts extremes of great wealth and grinding poverty; it favors the exploitation of resources by investment capital; it supports white supremacy; and it eulogizes holy wars. It has done nothing toward helping to feed hungry people or freeing them from colonial-type suppression. It sees nothing wrong with such countries as Spain, Portugal, or South Vietnam. Its only concern is with preserving the status quo of Free Enterprise, corrupt politics, and military aggression. It says the West favors free elections; but, it is to be noted that, as soon as the people in any country we can 'reach' vote in a regime through free elections which is anywhere left of

extreme right, it is soon superseded by a military coup and a rightist dictatorship—without popular consent.

The real danger lies in the West's propaganda continually supporting the favored Haves over the distressed Have Nots. The latter people, the world's majority, obsessed with hunger in their bellies, cannot be led thus to see things our way. They are willing and ready to seek another way of life for themselves if it only promises them food. In the end, the way we are headed, we are either going to be compelled to 'abandon them to communism' or fight them, perhaps with hydrogen bombs. Of the two alternatives, our leaders prefer to destroy them.

The propaganda of the West has become so narrow and archaic in its purpose that it can have little influence on the people of the world, particularly the great masses of impoverished peoples. Our propaganda has nothing to offer those people; it supports only an economic tyranny of the wealthy over the poor. When we go forth and threaten the Have Nots with thermonuclear bombs dropped from B-52 bombers, with Polaris missiles launched from submerged submarines, and with intercontinental ballistic missiles, such as Atlases and Titans, fired from bases on this continent, we do not frighten them. Sudden death from the sky is less terrifying to them than the slow, corroding death of malnutrition, exposure, and disease, which is a real and immediate menace.

If the West cannot offer the hungry people something better than what they have, why should they listen to us? When we deride all social movements in support of an improved way of life for the majority and label it 'communism,' we are equating social improvement with Evil and making it the basis for waging global war. Our persistent propaganda for calamity, thus, is making the United States the most hated nation on earth.

Is there an answer to this dilemma? Yes! But it is not to be found within the framework of the present politico-economic system. It must come from a change in the social outlook and social patterns of this Continent. We must have a new concept and a new kind of social administration—one that applies science to the social order; that is trained to distinguish fiction from fact, fantasy from reality. It must come from presenting the world with a much better social system than that of socialism. That better system, as anyone can ascertain for himself from a study of the facts, is Technocracy.

—F. C. Glenn

Alice's Paradox Fits Business Wonderland

Washington Post, Sept. 18, 1960—The American economy is on a treadmill, two leading business experts said.

"Alice in Wonderland had to run fast to stay where she was," they said. "We run fast everyday in a wonderland of business."

"We work hard to fill our warehouses with the good things. Then we have to stop working because the warehouses are too full," complained the experts, economist William Trufant Foster and Waddill Catchings, a banker.

There must be some solution to this surplus problem, a reporter suggested.

"Sometimes we produce so much the only way to keep industry going is to dump goods into the sea, or give them away, or sell them to people who can't pay for them," they said.

Do you think credit buying, in which more than half of all American families engage, is posing a problem?, they were asked.

"While our factories are running part time because people are not buying enough," they said, "we blame people for extravagant buying."

Foreign aid has been critized in some circles, a reporter said. Do you see this as a solution?

"We succeed by strenuous efforts in sending more and more of our own real wealth abroad," they commented. "But we always manage to prevent other nations from sending as much real wealth to us."

Do you think American industry should call a halt to its expansion and increases of capacity?

"We deny ourselves in order to increase our productive capacity, though already we can produce more than we know how to use," they charged. "Alice in Wonderland found nothing stranger than this."

The comments were made in the columns of the Chicago Daily News financial section of June 1, 1929—31 years ago.

Today's problems don't seem much different, do they?

Report on Automation

The following report is the result of a survey made by Congressman Elmer J. Holland (D) of Pennsylvania, on the subject of Unemployment and the Impact of Automation, as requested in November 1960 by Congressman Adam C. Powell, Chairman of the Committee on Education and Labor, of which Congressman Holland is a member.

As someone so aptly stated it just recently—"the only growth that can be noticed in the recent months, is the ever-increasing list of unemployed."

Our latest unofficial figures estimate approximately 6,000,000 people out of work, and many more if we count workers on part time and those in jobs below their capacities.

We have been informed that during this decade—from 1960 to 1970—there will be an average of 1½ to 2 million graduating from high school each year and in 1965 this number will jump to about 3 million. Some, of course, will continue their education, but we know that over 2/3 of them cannot afford to attend our colleges and universities and will be seeking employment.

There are already 500,000 fewer full-time jobs in America today than there were 3 years ago—and fewer man-hours of work are being provided in the private sector of the economy than there were 8 years ago, although the labor force has increased 5½ million during this period.

By 1970 there will be 87 million Americans willing and able to work and, as President Kennedy said during his recent campaign, this means that we must create almost 30,000 new jobs every week for 10 years just to keep pace with this growth. Without a sharper rise in jobs, our unemployment problem could easily become a nightmare.

Fortune Magazine, in its January 1961 issue, notes that "the vital task ahead is one of job creation, and the vital energizing currents here are national—not regional in scope."

Every effort must be exerted to secure full employment and make full use of our talents and skills if we want to have full production and maintain an expanding economy.

In brief, then, government participation and aid are essential if we are to find solutions to our unemployment problems, and find them we must if we want our way of life to continue and our free enterprise economy to survive.

Since 1953, each peak of the business cycle has found unemployment a little higher than at the previous peak. With each recession, there are more unemployed than in the previous one and our unemployment is widespread among those workers considered the most employable people in the labor force . . . experienced, non-casual workers, between the ages of 25 and 35.

As a result of the research done on this subject, I have come to the conclusion that we need long term planning if we do not want to continue periodic recurrences of the present situation.

Automation has entered our lives—and it is here to stay.

It is already molding our economy as well as our institutions and whole concepts and systems of management are going to have to be initiated if we are to cope with it.

The second half of the 20th century could—through advance of technology—witness the creation of an economic paradise on earth . . . or . . . if not handled correctly, we could see the violent end to all civilization because of it.

With rational planning for a balanced economic and social growth I feel the challenges raised by automation can be met successfully.

In many cases it is quite difficult to pinpoint elimination of jobs due to automation. We have found that in numerous industries the permanent reduction of the work force—due to technological changes—are apparently postponed until a general downturn permits layoffs which can be blamed on national and international conditions. However, when recovery occurs many are not called back to work.

When new mechanical or electronic devices are installed, assurances are given workers in many industries that they will not be hurt or fired. However, when they leave—due to retirement or resignation—no one is hired to replace them.

It seems that one of the greatest problems with

automation is Not The Worker Who Is Fired . . . but . . . THE WORKER WHO IS NOT HIRED.

Automation is already here in . . .

Steel . . . 250,000 workers today are doing the work of 500,000 of 12 years ago, and last June, General Electric announced that a "push button" steel mill is on the way.

Autos . . . In a Ford plant in Cleveland, one unit does more than 500 different operations . . . within 1 hour it turns out 100 engine blocks.

Coal . . . 400,000 coal miners of 10 years ago have been replaced by machinery and now 200,000 miners—who work only part time—produce sufficient coal.

Oil . . . A small group of men run a $40 million plant by remote control from a panel board.

Radio . . . Where 200 men were required to assemble 1000 radios a day, the job can now be done by 2 men.

Telephone . . . At one New York City hotel, where automatic phone equipment was installed, 60 telephone operators lost their jobs.

Textile . . . One man—who used to operate 4 looms—today operates 30 looms.

Sheet-metal work . . . Today 4,400 workers produce the same amount it took 45,000 to produce in 1939.

Stores . . . Automatic devices take orders and fill them . . . read cash register tapes at day's end, record that which is sold, the money taken in, the stock that needs to be replaced . . . take paper money and make change.

Banks . . . Automatic devices sort checks, debit and credit depositors' accounts and make monthly statements.

Government . . . Automatic devices audit 135 million Social Security accounts . . . scan income tax returns for errors and unusually large deductions . . . aim and fire missiles . . . track space satellites . . . play "war games" to lay out new strategies . . . sort and handle mail . . . plot the course of storms, send out weather maps over the nation.

Airlines . . . Automation makes reservations . . . guides planes in "blind" take-offs and in landings . . . keeps accounts.

Railroads . . . Controls the movement of trains . . . schedules freight and keeps accounts for railroads.

Cities . . . Turns lights on and off as needed, with electronic eyes that react to darkness, whether due to nightfall, early twilight, storms or other causes.

Manufacturing . . . Guides, with punched tape, tools that turn out parts for autos, planes, missiles, and other things at a fraction of the former cost . . . runs, by computer, steel rolling mills, oil refinery systems.

And here are a few of the "miracles of tomorrow" that are due to come and for which we must prepare ourselves:

Help, by computer analysis, in the diagnosis of illness . . .

Technology will provide push-button telephone service that will include home extensions for "intercom" systems . . .

Operate a push-button steel plant that will be completely automated—from taking the customers orders to delivering the finished product (probably the one referred to by G. E. in the above statement).

Transmit written messages over great distances in a few seconds time, through the U. S. postal service . . .

Operate fully automatic trains . . .

Translate foreign language conversations, or written works in a flash (some of this work is being done now, but one man is still needed to edit the translation . . . they expect to do away with the one man's job). . . .

Whole plant automation is expected . . . a system of computers to automate the entire manufacturing process was demonstrated by IBM last June. The machine monitors all the basic functions of manufacturing—sales forecasting, materials planning, inventory management, plant scheduling and work dispatching and evaluating the results. . . .

A machine that types directly from dictation . . .

The economic, social and political problems arising from our great technological developments in the days ahead will be even more difficult and complex than we now are experiencing.

Today we have on the average of 150,000 unemployed each month losing their unemployment compensation benefits and the only outlook at the moment is possibly an extension of these benefits for 13 weeks more . . . then they will have to go on the rolls of the public assistance departments of the various states.

When men—and women—who are the sole support of their families lose their jobs and are told . . . at the age of 40 . . . they are too old to be considered by other industries, the future is

bleak . . . not only for them, but for their families. We must remember that the children of these families today must be prepared to be the leaders of our nation tomorrow . . . and, if they are to be raised as wards of the state, their concepts of our system of government and our economy will not be too enthusiastic.

These problems are of our own making. We must find answers to them. We must retrain these men, if necessary, so that they can support and educate their families and return to work as they want to do.

We are in a new world . . . with new challenges . . . and we need new thinking. We cannot afford to waste any more time.

This report, I know, merely scratches the surface of the present conditions and indicates why we are in our "state of decline."

Much more can—and should be—divulged by holding Public Hearings and securing accurate figures of our unemployed and their prospects for the future.

This will be the job of the Holland Subcommittee on Unemployment and the Impact of Automation which will be in full operation very shortly.

(Editor's comment: This report on Automation indicates that the politicians have the information on the unemployment situation. But it also indicates that they don't know what to do . . . other than to hold hearings. The politicians try to confine their thinking to tactical maneuvers within the framework of the Price System. They cannot think strategically in terms of the physical situation on this Continent and the general welfare. So long as national planners think in terms of finding employment for the people of the land, we know they are headed in the diametrically wrong direction for the correct course. The correct answer to the employment problem of this Continent involves the elimination of as many man-hours as possible from the tasks of production and service, not making more work for more people. We can be sure that that answer will not come from the overpaid politicians in Washington or anywhere else. Only Technocracy has the answer.)

HEADACHES GALORE!

Wall Street Journal—Aspirin makers think sales of the pills may be an economic indicator. When the economy slumps, more people treat minor illnesses with aspirin rather than seeing doctors, says one drug firm. Producers find aspirin sales have spurted more than usual in recent months, but still haven't increased at the 1958 recession rate.

(Wait a little while longer.)

* * *

Chicago American—A transistor nearly double the speed of standard types has been developed by Radio Corporation of America.

Kenneth M. McLaughlin, computer products manager at the RCA Somerville, N. J., center, said today the transistor should lead to the creation of computers with much greater speed of operation than those in present use. The transistor can handle 100 million signals a second.

The device will be in commercial production soon. Key to the speed of the new transistor is its high frequency capability or ability to receive and pass on information in the form of very fast electrical currents.

Price System Scale of Moral Values

If he steals $2 he is a thief:

If he steals $20 he's a crook:

If he steals $2,000 he's an embezzler;

If he steals $200,000 he's a business leader:

If he steals $2,000,000 he's an investiment banker;

If he steals $2,000,000,000 he's a statesman.

If You Want Part of This Move Off the Continent

Legislation authorizing the President to sell abroad during the rest of this year an additional $2 billion in surplus farm products was sent to the White House.

Payment will be made in local currencies, most of which will be channeled into loans and grants to recipient nations.

The University of California is perfecting a continuous vinegar-making process that reduces the time from many months to hours. Many fruits not now used for vinegar can now be used.

—California Farmer

Technological Shorts

Niagara Falls Power Plant, largest in the Western World, goes on stream. N. Y. Herald-Tribune, Feb. 11.

* * *

Coin Operated Dry Cleaning Machines invade the field of services. Wall Street Journal, Feb. 6.

* * *

Zenith Radio Corp. develops a high-speed shadowgraphic X-ray unit. Wall Street Journal, Feb. 6.

* * *

Celanese Corp. of America develops new high-strength plastic, described as able to take the place of metal in many parts.

* * *

Live stock feeding from sealed storage units greatly speeds conversion from 'haylage' to meat at Jamieson Ranch, Elk Creek, Calif. California Farmer, Jan. 21.

* * *

Large and small firms are turning to electronic computers to keep records. Los Angeles Times, Feb. 5.

* * *

General Motors is advertising their new diesel Electro-Motive GP-20's which enables three of them to displace four of the older type locomotives.

* * *

A General Portland Cement advertisement shows an assembly line type of soil-cement road building which with one special type machine lays road in only three steps.

COVER

Kearney and Trecker Milwaukee-Matic. A flexible automatic multi-machining center with great versatility. Mills, drills, reams, taps and bores, completely automatic from tape control and quality of product independent of skill of operator.

Stromberg Carlson advertises a machine for automatic drafting which when programmed with a computer can produce mechanical drawings in less than a second.

* * *

Textiles from paper can be produced by a process developed by a meat packing firm. Paper enthusiasts see unlimited possibilities. It is already licensed to carpet, floor coving, packaging and textile firms.

* * *

An automatic vendor known as the Grocerette advertised in the Wall Street Journal for dispensing any packaged grocery product.

* * *

Republic Steel Co. announced in an ad in the Wall Street Journal the opening of a new bar mill in Chicago with split-second control (computer).

* * *

Christian Science Monitor, Feb. 23, reports Michigan orchardists are installing mechanical cherry pickers, thereby reducing costs from three cents to one and one-half cents per pound.

* * *

Los Angeles Examiner, March 29, ran a full page spread, entitled "Jobs for Machines, But Few for Men." Scientists at Santa Barbara in panel discussion see no answers to the dilemma within our economy.

* * *

Regina Leader-Post, Jan. 5, reports that the Saskatchewan Government Insurance Office installed an IBM Ramac computer system to rate, code and print insurance policies as well as to up-date and store records for the head office.

The TECHNOCRAT STAFF

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Richard Burnett.....Assistant Editor
Kenneth Wolford.....Research Editor
Maysie Foster.....Circulation Manager
Marjorie T. Clouse.....Business Manager

$35 Million Electronic Switchman Runs Big Pennsy Yard Alone

Conway, Pa., March 28—A 120-car freight train from Chicago pulls into Conway, home of the biggest and busiest freight yards in the country.

As the yardmaster, your job is to see that this train is broken up and its cars dispatched to a multitude of destinations in the shortest time possible.

How do you tackle this mammoth job? It's possible that each car in the string of 120 is headed for a different destination on the Pennsylvania Railroad's vast network.

Let's follow car No. 850-639 to see how you accomplish your task. Car No. 850-639 is in the middle of the big train that just arrived in the eastward receiving yards.

In bygone years it would have been a monumental task to classify this train with verbal orders as the backbone of the operation.

Today, electronics does the trick.

The key which unlocks the door to speedy classification is automation. Technological improvements such as radar, coded circuits, intercoms, and other devices which make your job easier were installed by the PRR at a cost of $35 million.

As yardmaster, you direct the classification of cars from a tower in the heart of all the activity at Conway Yards, which spread over 372 acres adjacent to the north shore of the Ohio River.

You are positioned to see trains entering and leaving the yards from points east and west.

The car we are following, No. 850-639, rolls into the yards on track 208. As it enters, an employe called a "scanner" relays its number by phone to a tape recorder in the main yard office.

Once in the receiving yards, car inspectors equipped with miniature radio transmitters check the chain of cars for defects and "bleed" the train's air brakes to allow it to be shoved over an elevated "hump" to classification tracks.

Meanwhile, information the "scanner" has taped is fed into a master control machine. The machine records the classification of No. 850-639 and delivers the track destination of the car, plus the rest of the freight, to an automatic switching system.

After you receive a go-ahead from the inspectors, you contact an engineer by "trainphone" in a diesel "pusher" engine which shoves the cars up the hump. Car No. 850-639 is weighed on the upgrade as it passes over automatic scales.

The only manual operations you have to depend on are the lubrication of the car as it moves up the hump and its uncoupling at the crest of the grade.

After a brakeman uncouples the car at the top of the hump, electronic devices so delicate as to take into account wind resistance and the amount of moisture on the rails take over the job of classification.

This highly modernized system allows four cars per minute to flow over the hump, which means the car we are following, being 60 deep, will take only 15 minutes to reach the top once the train begins moving.

As the car starts its downward course by gravity its classification track, one of 54 located in the eastward yards, automatic retarders brake its progress, insuring safe travel speed and facilitating a smooth coupling with the car ahead of it on the classification track.

Defective cars, reported by inspectors, are rerouted to a shop track for repairs before being relayed.

Now that car No. 850-639 has reached its classification track, it is ready for the last leg of its journey. Another yardmaster takes over responsibility to see that the car, now part of a new train, is whisked to its scheduled destination by a diesel "road" locomotive.

Car No. 850-639 leaves the eastward classification yards, fifth in a string of 100, destined for a point on the Eastern Seaboard. It has been less than four hours since the car entered the receiving yards, was classified, and hustled out as part of a new train.

West bound trains are handled in a similar manner on 53 classification tracks. Crack trains, like the PRR's piggyback truck-trains, speed directly through Conway, by-passing the humps.

Although you have car No. 850-639 safely on its way to its destination, your day is just beginning. Thousands of freight cars pour into the yards and it's your job, as a yardmaster, to keep them moving.

—Lawrence R. Werner, Detroit News

Down on the Farm

Agricultural News culled from the *California Farmer*:

Complete elimination of all conventional sugar beet thinning is just a matter of time and additional research, according to USDA's head of sugar beet research . . . he pointed out that monogerm seed production—first step in eliminating thinning operations—climbed from 3.7 per cent in 1956 to 60 per cent in 1960.

Fewer but larger farms is the story in U. S., according to 1959 census of agriculture figures . . . 3,704,000 farms in 1959 . . . smallest number reported in any census since 1870 . . . 23 per cent less than the 1954 census reports . . . number of farms dropped in every state in Nation and all but 42 counties . . . total land dropped from 1.16 billion acres in 1954 to 1.12 billion in 1959 . . . there were 1,079,000 fewer farms in 1959 than there were in 1954 but 232,000 of these losses were due to changes in census definitions . . . only farms of 260 acres or more increased in number in the five year period . . . specialization in large farming units progressed at faster rate during any five year period in history . . . number of farms 500 acres and over increased 62 per cent during the last 35 years and now account for 9 per cent of the farms in 48 states.

U. S. farm production has increased by 35 per cent since 1945 . . . with 45 per cent fewer hours of farm labor required . . . three million fewer workers are now needed, as compared with 15 years ago . . . production of farm products has increased more than 100 per cent . . . industrial workers have increased their productivity by only 40 per cent . . . in same 15 years, farmers' share of retail food dollar has dropped from 53 cents in 1945 down to 38 cents . . . average income per capita of non-farm population has increased by 70 per cent, while those who live on farms have added only about 35 per cent to their per capita income.

Any Old Port In a Storm

The Executive Exchange Club today launched a $1 million scrip plan here to stimulate buying among small businessmen.

"There is a great shortage of cash flow," said M. J. McConnell, president of the club, "and this plan is designed to break the log-jam."

He explained that the scrip, in books of $1,000, will be used by the 1,000 business members for the exchange of services.

The club offices at 1230 W. Second St., will act as a clearing house to balance the accounts.

Here's how the plan will work:

When a hotel owner needs new furnishings, for example, he will purchase them with the currency from a club member.

The store owner will turn the currency into the club offices where it will be credited to the store owner's account.

"The purpose of the plan," said McConnell, "is to stimulate business for the small and medium sized businessman. It will break the log-jam between the businessman's inventory and the sale of it. His merchandise will be converted into immediate buying power."

The program will be expanded to $4 million within the next three months, according to McConnell. with circulation in San Diego area, San Francisco, Hawaii. Nevada and Utah.

(Hope springs eternal. Few people will concede the impossibility of distributing an abundance within the framework of the Price System.)

A Machine Can Design Better Than A Human—Look, Ma, No Engineers

A Shell Oil Co. research team of engineers and mathematicians has devised a system of logic by which an electronic computer can be used to designed better chemical plants than can humans in the business, according to Samuel F. Bowlby, vice president of Shell.

In a practical test the system designed one that cost from $250,000 to $600,000 less to build than the best previous design of a group of engineers, he said. This saving represented 5% to 6% of total construction costs.

The system of logic is called CHEOPS—for chemical engineering optimization system. Shell engineers now are working on a similar program for oil refineries.

This confirms the idea that engineers are lazy, too. They would like to have a machine to do their work so they can rest at ease.

Your magazines, Trend Events and Briefs contain information gathered by Research personnel all over the Continent and available in no other publications. Sections should make continual effort to increase their circulation.

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

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Introduction to Technocracy	25c	Continentalism—The Mandate of Survival	15c
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Science vs. Chaos	10c	America Must Show the Way	15c
		'The Sellout of the Ages'	10c

We have available additional copies of "Stampeding to Disaster," at 25 copies for $1; this timeless article is a good contact piece.

June, 1961 Whole No. 198

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TECHNOCRACY

The movement known as Technocracy originated in the United States in 1932. It sought to give expression to a group of principles which for many years had found place in the writings of a few engineers, economists and students of science. Its basic principles were:

(A)—Social phenomena are measurable and the laws of social control may be derived from these measurements.

(B)—The application of the machine to the production of goods and services has made it impossible to measure the value produced in terms of any single commodity (gold for example) and thus the engineer has destroyed the Price System.

(C)—The expansion of credit, sometimes termed the creation of debt, under the capitalistic system has disturbed the relative claims of capital and labor to the goods produced to such an extent that the Capitalistic System has already collapsed.

(D)—The economics of the social order are too complicated to be understood and controlled by politicians. Control should be placed in the hands of engineers and scientists.

—Encyclopaedia Britannica, 1960, page 894

— SECTION STAMP —

The TECHNOCRAT

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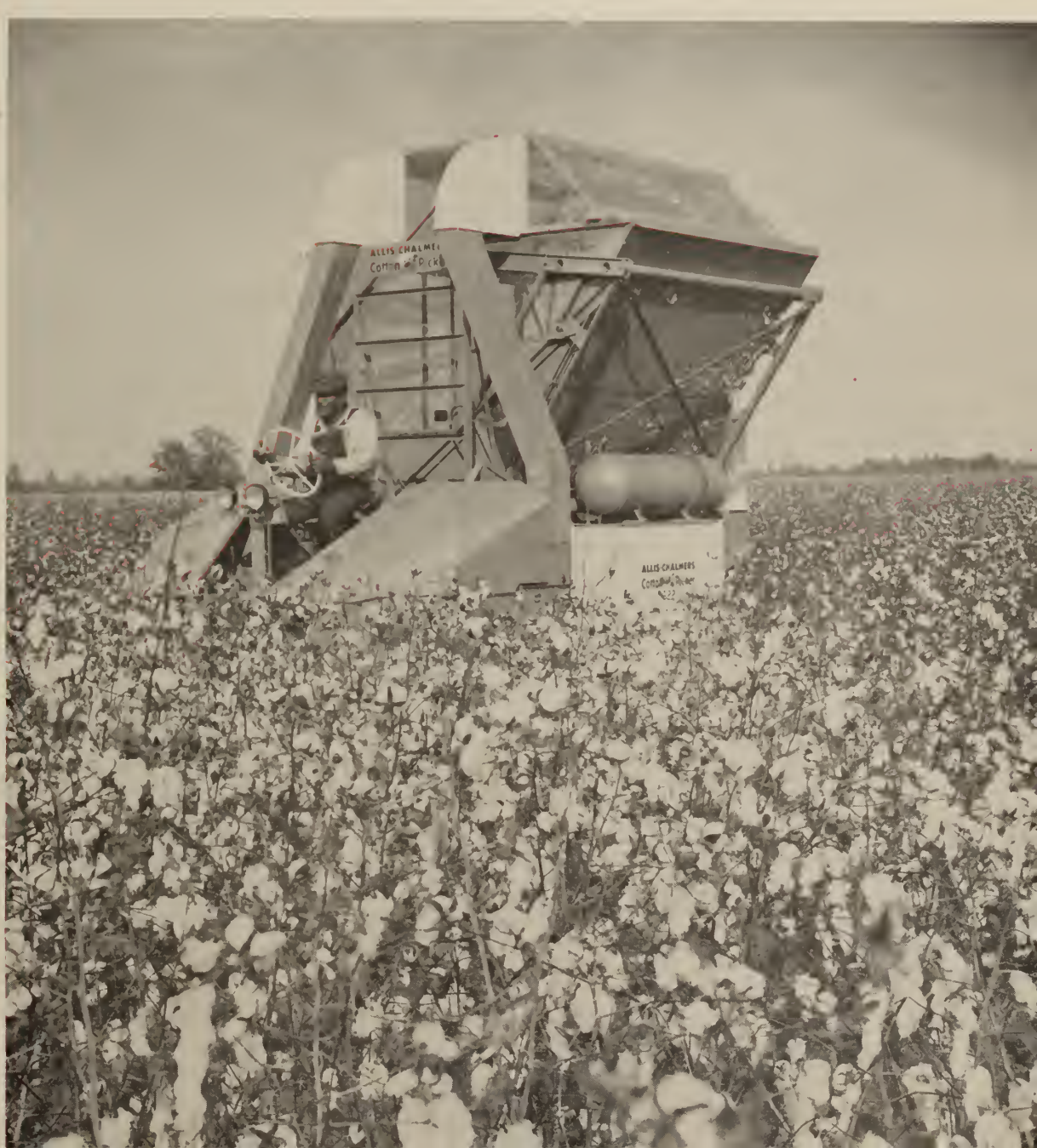

The TECHNOCRAT

SEPTEMBER, 1961

Editorial

Something to Fight For

During the last war there was a popular song entitled, "This Is Worth Fighting For." Let's examine this a bit and see what we have that is worth fighting for and in the process we may find some things we have that are not worth a good fight.

Our country and our continent with its lakes, rivers, forests, mountains and wide prairies, unmatched in the whole wide world, these truly are worth fighting for. The great store of resources the thousands of acres of arable land, the oil, coal, the many kinds of ores which supply us with the things we consider necessary for modern living. These, too, are worth a scrap.

But hold on. Just whose are these things? True, we can look at them, admire them but largely you cannot enjoy their use unless you contribute a price. The forests and many of the fields are owned by large corporations and you are excluded. Few are the lakes and rivers you can use without trespass. And miles of our seashores are blocked off by private ownership.

This continent, when first settled by the white man, had the greatest variety of natural resources of any similar area on the face of the globe. Yet, today many of the forest and mineral resources have been dissipated so that in quite a number we have exhausted the entire supply.

One of the greatest resources any nation could have is the top soil, of which it took nature anywhere from three hundred to a thousand years to produce a single inch. Year after year we have allowed millions of tons of this top soil to be carried by flood-swollen streams to the sea. Another vital resource is the fresh water that falls on the land. It comes principally in the winter months, and with the coming of spring rushes in floods to waste in the sea, its greatest work being destruction. Consider, we have the men, machinery, materials and the know-how to control this terrible waste, but up to now we have made little more than a token effort to conserve our heritage. Well, let's fight for it!

Applying our gradually accumulated knowledge and technology to our production problems, American scientists, engineers, technicians, in fact all of us together, have brought forth on this continent the greatest array of technical plant and equipment the world has ever seen. Today, there seems to be no production problem which is incapable of solution. America can produce an abundance of physical goods for all the people on this continent. Today, the flow lines of commerce are bogged down with too much food, too many automobiles, too many gadgets, too much of everything. But it is not abundance, it is only potential. There are millions of our people who have too little of all the things of which we have too much. Imagine, if you can, that according to government reports, 55 per cent of all people sixty-five and over (including those still working) have less than $1000 cash income per year. About a third have liquid assets up to $200, in case of an emergency. Only a tiny fraction have substantial assets readily convertible to cash. All this in America, the richest nation on earth. To remedy this condition is really worth a battle.

Concluded on Page 26

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The Greatest Heresy of All

The stubborn struggle of the Old Order against science and technology goes on in many places and many ways.

During man's history on earth, there have been many conflicts and antagonisms which, on later analysis and appraisal by detached students, have appeared stupid and useless. Yet these conflicts have been conducted with all the zeal and ferocity of patriots defending their homes and way of life against ruthless despoilers. It usually turns out that the conflicts spring from disputes over differences of belief concerning the Vital Truths of life and society. At least, that is the pretense; although, more often than otherwise, the disputes are merely used as excuses for the conflict, with economic predation being the real motive. It is on disputations over differences of conviction among men, rather than with overt struggles for gain, that we shall center our attention at this time.

Through the ages, various groups of men have believed many things and they have founded many cults around those beliefs. The objects of these beliefs have covered a wide field: they have concerned the nature of the universe, the nature of man, forms of government, systems of economics, social relations, morals and ethics, and aesthetics. These beliefs have often exhibited differences which the respective cults stubbornly refused to reconcile: and they have tended to separate mankind into hostile or semi-hostile camps.

The factual character of the beliefs of a group were seldom put to objective tests; hence, their conformity with the realities of nature rarely have been an issue. Their acceptance has been based on say-so and faith.

Numerous philosophical and religious cults have risen up, through the centuries, around various doctrines. These doctrines usually were rooted in the musings of some 'wise man' or in 'revelations' allegedly bestowed on some prophet. Most of these cults have been ephemeral: they had small, enthusiastic followings for awhile then they died out, often with or shortly after the death of their founder and leader. But a few have survived through vigorous promotion and have grown and evolved into worldwide organizations. The successful cults may have their organizational emphasis centered in clericalism, in economics, or in politics; or any two of these features, or even all three, may be combined.

Cults may have a basis in rationalism (intellectual reasoning) or they may be based on nothing more than mere faith in the existence of certain beings or conditions whose characteristics are 'beyond nature' — metaphysical. In any event, the great majority of the followers of any cult adhere to it as a consequence of faith or circumstances. They do not think things out for themselves.

It is characteristic of each cult that it sets its doctrines up as Universal Truths to which, its disciples contend, all men should pay homage and contribute financially or otherwise. . . . The worldly and spiritual benefits of the cult are to be dispensed variously, according to the teachings of the particular cult. According to some, the benefits go, now or eventually, to only a select few: according to others, the benefits go differentially to a graduated hierarchy; according to some, they are dispensed more or less equitably to all members of the cult; and, in rare instances, the benefits may be dispensed to all mankind.

To the followers of a cult, all beliefs and affiliations which are contrary to the doctrines and administrative pattern of the cult are regarded wtih scorn or condescension. A dominant cult is particularly disdainful of minority cults. Where the power of two or more cults are about equal, there tends to be a status of cold truce among them. In extreme cases, open warfare may arise between the adherents of two or more cults, and this may involve physical violence in its most vicious form. Human history is replete with such examples. As major examples, we need mention only the Crusades of the Middle Ages and the

recent fascist program of exterminations in Europe prior to and during World War II.

Some of the most violent hatreds and most vicious conflicts in the world have been those between two branches of the same cult following a schismatic separation. The Hundred Years War and the Thirty Years War of Europe, between Protestants and Roman Catholics, are major examples of this type of conflict. They were exceeded in duration and cruelty only by the unrelenting conflict between Roman Catholics and Orthodox Catholics since their schismatic separation a thousand years ago.

Deviation Is Heresy

A deviation from the pattern and authority of a cult is known as a *heresy*. A heretic is regarded as an enemy of the cult, hence is deserving of contempt and punishment. Even the most saintly of cultists have been guilty of devising punishments for heretics which would outdo the most fanatic cruelties of frenzied barbarians. We need mention in this connection only the Inquisitions of Europe and Latin America and the orthodox Christian concept of everlasting torture in Hell. . . . The hatred of Orthodox Jews for Reformed Jews is among the bitterest in the world.

Yet, it is to be observed, cults which are normally at war with each other may get together as allies to fight a heresy that is more extreme than any of them. Thus, Protestants, Catholics, and Jews may get together to oppress humanists and atheists. . . . In the political field, Democrats, Republicans, and Socialists may band together to fight Communists. . . . In the economic field, we see a similar principle in operation when rival oil companies cojointly declare 'war' on an independent, cut-rate oil company.

It is not only in the realm of the conventional philosophies — religious, moral, political, economic, social — that fanatic repudiation of that which is new or strange occurs.

Resistance to Change

Professional military men have consistently abhorred and resisted the introduction of new weapons, particularly new types of weapons. This resistance has occurred in all ages of history and it has applied to all new kinds of weapons which have been introduced from the early stone age to the present atomic age. The resistance to new weapons by the professional military officers has not been based on the relative effectiveness of such new weapons; for, usually the new weapons were more effective than the 'conventional' weapons. Rather, the rejection was on the grounds that the new weapons were 'ungentlemanly' devices — cruel and 'barbarian.' Thus, for example, the introduction of firearms was opposed with the argument that they took the 'art' out of warfare. Any 'crude fellow' with a blunderbuss could effectively stand up against the most skilled and gentlemanly knight in armor.

But some 'ungentlemanly' renegade insisted on using firearms, so the other side had to use them too, to stay in the running. Eventually firearms became 'conventional.' Then, it was the introduction of a repeater rifle with prepared cartridges that was heretical for awhile. . . . There were even those who argued that the use of smokeless powder was 'ungentlemanly,' since it concealed one's location from the enemy, did not give him a 'fair' chance. . . . Artillery tended to nullify the skill of hand-to-hand fighting, hence it was considered heretical by some. But its effectiveness won out over moral philosophy. . . . For some 200 years, the use of rockets as artillery weapons was suppressed even though their superiority over 'conventional' artillery had been proven.

The employment of massive power drives in warfare, such as those of Russia and the United States during World War II, was deplored by certain old-line military leaders (Major-General Fuller of Britain, for one) on the grounds that they achieved their objectives by 'brute force' rather than by the skill of maneuverment. . . . The use of V-1 and V-2 rockets by the Germans in World War II was regarded by many as "ungentlemanly'; but, already, such devices are considered not only as conventional but as obsolete. In fact, now, all types of weapons and tactics, except those employing atomic explosions, are spoken of as 'conventional.'

There is considerable yearning among old-line military leaders for a 'return' to conventional concepts of warfare. A war machine that does not involve mass formations of men to command is heresy to all conventional concepts of warfare.

If we turn to the historical development of industrial devices and techniques, the same situation prevails. We have read how the introduction of power machines was resisted and in some instances sabotaged by the advocates of the 'conventional' way of doing work. The mass employment of man-energy had been the age-long 'conventional' way of doing work. Even the scriptures were quoted to support the morality of toil: 'Man shall earn his bread in the sweat of his brow.' But in time the

use of power tools was rationalized and they gradually became accepted as conventional.

In the timbering industry, the power saw has replaced the axe and the hand-saw, the caterpillar tractor has replaced oxen and horses.

In the loading and unloading of ships, power conveyors are replacing the tedious drudgery of the longshoremen.

In time, heresy becomes conventional: but, first, it has to do battle.

Neither labor nor management wanted or welcomed the new industrial techniques. Both considered them heretical. But they were introduced and became conventional because some "unscrupulous heretic' was so ungentlemanly as to employ them to gain an 'unfair' advantage in commercial competition.

In many instances, the difference between heresy and orthodoxy is a matter of time.

Birth of Private Enterprise

In the most primitive of human societies, there was no private property or private enterprise as we know it today. Individuals and families had the use of dwellings, tools, and other things, but they did not have title to them. When one left a dwelling, for example, it became available for other occupancy; the dwelling could not be held out of use by an 'owner.' In those epochs, it is reasonable to presume, advocates of private property, particularly private ownership of public property, were heretics of the worst kind.

But the simple patterns of savagery slowly gave way to the complex patterns of barbarism. The doctrines of private property and private enterprise became orthodoxy. First, women became recognized as the property of the men. Then, the produce of the women was claimed as private property by the respective male owners. Thence, through a gradual process of logical events, everything became private property. The doctrines of private property and private enterprise became supported by the most astute of logical reasoning and by interpretations of the sacred scriptures. The savage concepts of economic equality became abandoned to a pattern of inequality, and this inequality soon became extreme — millionaires and paupers living in the same community. The old, conventional orthodoxy of cooperative communalism became heretical and has been dealt with ruthlessly. Today, the barbarian pattern still persists, but the economic differences have become more extreme — now, there are billionaires and paupers living in the same communities.

Three major exceptions to the private property and private enterprise concept have persisted throughout the period of barbarism, wherein communal living without private ownership of facilities prevail. These exceptions are: religious orders, penal colonies, and military formations. In these institutions, it is to be noted, communal living is virtually on a subsistence basis and is allowed for purposes of cutting costs. A subsistence living can be provided under communal living at less cost than under private enterprise living.

Some remnants of public ownership of public property still remain within our society, much to the distress of the vociferous supporters of orthodox principles of barbarism. (We define as 'public property' anything used by two or more people.) Postal service, highways, public schools, national forests, public parks, waterways development, penal administration, and the armed forces are still largely in the domain of public enterprise. These things became instituted in the public domain largely because the cost of setting them up and operating them was too unprofitable for, or too far beyond the means of, private enterprisers. The development of atomic energy was too costly for private enterprise, so it was done as a public enterprise; but, now that it has been developed at public expense, the private corporations are eager to move in and take it over.

The cost of operating a private enterprise economy is infinitely greater than the cost of operating a public enterprise economy. The relative costs are indicated by the disparity in the price between sending a letter through the public mails and sending a telegram or making a telephone call through private enterprise communication. Hence, all public enterprise services have their enemies among the disciples of orthodox private enterprise. Public services are 'unfair competition,' hence they are 'heretical.' (Yet, there is some hypocrisy evident between the preaching and the behavior of these disciples. We note that a recent president of the United States, a strong advocate of private enterprise and avid hater of collectivism, nevertheless, openly takes advantage of his status in the armed forces to accept medical treatment and other collectivist services rather than procure them from private enterprise. Senator Goldwater, a most rabid anti-collectivist, is not above accepting free haircuts at the Senate barber shop.)

In America, today, cooperative living by groups of consumers is extremely heretical behavior.

Any attempt to set up a cooperative consumers colony in this country is exposed to grave hazards, including invasion, arson, and mayhem perpetrated by pick-handle brigades of patriots of the status quo. There are cases on record during recent years where certain entertainers who were suspected of affiliation with collectivist ideologies have been attacked by mobs of 'patriots' and even members of the audience which was attending the performance have been seriously harassed and injured.

Heresy has always tended to arouse resentments which cause the 'good citizens' of the community to ignore their legal and moral codes and behave as sub-humans. . . . In parts of the United States, not necessarily southern United States, social integration of Negroes and Whites is regarded as heresy; and emotions and behaviorisms are aroused over this issue which transgress the idealistic ethical teachings of many centuries. In the face of heresy, many otherwise proper people may display the emotional frenzy of dope-crazed maniacs.

The Greatest Heresy

In spite of all the frenetic effort devoted to maintaining an unchanging status quo, there has developed a fundamental heresy in modern society which makes all other heresies seem trivial in comparison. It had its beginnings, as an organized heresy, about 400 years ago; but its greatest effects have been manifested during the Twentieth Century. This greatest of all heresies is science. But science itself remains rather obscure insofar as the public is concerned. It manifests itself mostly through its offspring, technology. Hence, in effect, technology is the Great Heresy.

One of the first conflicts of technology with orthodoxy was the one over the introduction of the printing press. At that time, printing was considered to be a Black Art, and printers were called 'devils.' But printing was so obviously more advantageous to publication than hand script that it could not be denied for long. Its formal debut was effected when the disciples of the Old Order were tricked into tolerating it by the sly maneuver of offering the services of the printing press for the multiple reproduction of the holy scriptures.

Science worked. Its findings were open to verification. Vituperation was heaped upon it by the diehards of the Old Order, but its capabilities could not be refuted. Little by little, the technological offspring of science have become accepted into society. But, in the process, science had its martyrs; not all of the early scientists were permitted to live out a normal span of years. The controversy was one of faith versus observation. Observation revealed facts which worked and could be used; faith, too often, failed to accomplish that which was expected of it. The new heresy grew and proliferated. Mumbo jumbo and hocus-pocus could not stand up in empirical tests with observation and experiment. Science gained prestige while faith lost ground.

Even today, science and technology are viewed with contempt and assailed with vituperation by the advocates of mubo jumbo. They are sneeringly referred to as 'atheistic materialism.' Most of the leading 'statesmen' of the West, particularly of the United States and the Vatican, feel called upon to voice repeatedly their contempt of atheistic materialism. Yet in their practical lives they live by materialism while giving only pious deference to their Articles of Faith.

The hocus-pocus fraternity of Madison Avenue try to bolster up the prestige of their mumbo jumbo advertising with references to 'scientific proof' of their claims. Of course, their 'scientific proof' is as phoney as the rest of their ballyhoo; but they figure the great majority of the viewers and listeners won't know the difference. In the main, this appraisal is correct. How can one expect intelligent thinking or behavior from a gullible public that is brain-washed with the same silly exhibition of hocus-pocus a dozen times a day, every day of the year, year after year?

The stubborn struggle of the Old Order against science and technology goes on in many places and in many ways.

The application of power technology to the work processes of production and service is met with resistance at every step of the way and in every line. People whose economic stakes are tied in with the old way of doing work, and who are most immediately affected by the introduction of power technology, are the most active in the resistance. The workers are not the only ones involved. Managers, particularly work bosses, have not always applauded the introduction of power technology. Droves of workers can be 'managed,' but how do you manage a machine? Machines cannot be managed; they can either be operated or left idle.

A Modern Heresy

A great modern heresy is that known as automation. Both Labor and the lower echelons of management despise it. Automatic technology

eliminates not only the workers but the supervisory and employee relations personnel as well. The shop foreman goes out with the workers; he is replaced with an operations technician. Labor and much of Management is stymied. The old orthodoxies of 'the right to work' and the 'right to boss' are starting on the way to becoming heresies themselves. The moralists and philosophers of the Old Order can rant and rave over that monster heresy 'technocratic materialism'; but they are on the losing side. Toil is going out of fashion, thanks to automatic technology. The apostles of toil (toil for other people, not for themselves) soon will be preaching to empty houses. They will find a sort of kinship with the 'flat earth' fanatics who preceded them down the same path toward oblivion.

The early heresies introduced by science have been accepted and reconciled by all but the most stubborn diehards of the Old Order. The earth is no longer believed to be flat, nor to be the center of the universe. The sun, moon, planets, and stars are no longer regarded as special phenomena created to serve man. The human being is now treated as a part of nature, as an animal, not as a supra-natural being. Diseases are thought of as malfunctions caused by infections and infestations of the body by other organisms, by irritations caused by incompatible materials in the environment, by malnutrition, or by senescent deterioration of bodily functions — not as acts of mischief by hostile spooks. The heresy of organic evolution has been transformed into orthodoxy among the educated people of the world. . . . Wherever science has penetrated into man's thoughts, investigations, and actions, man's concepts and his way of doing things has changed.

So rapid has been technological change of recent decades that, now, change is becoming accepted by many as a way of life. The old verities and the old patterns are being challenged on every side. Much of what the old folks believe is being questioned by the youngsters merely because it is old. But, insofar as the great majority is concerned, a belief in change is as silly as a belief in an unchanging universe. This belief can be used against them. The style merchants provide them with changes in superficialities without changing anything basic and the public is thereby wheedled into believing that it is experiencing progress. Yet, in time, some fundamental change gets worked in and the basic ways of life become altered. Parents soon discover that they are incapable of planning a satisfactory pattern of life for their children and the children want something different from the 'ancient' patterns of the parents. What was good enough for granddad is no longer good enough for grandson; in fact, it often isn't even tolerable to him, and in some instances it is not even practicable anymore.

In the social field, however, very little has changed. The old orthodoxies still prevail in their basic patterns. This pertains particularly to economics, government, and social relations. These are the fields where science has been most banned up-to-date.

Current economics is half modern and half ancient. Science has been applied to the processes of production; and, in that aspect of economics, there have been fundamental changes. But the processes of distribution are still ancient. Distribution involves the acquisition of money by the consumers and the retail purchasing of goods and services from merchants. In these latter fundamentals, there has been no significant change since the earliest historical times. Yet, with science applied to distribution as well as to production, the rest of the old economic orthodoxies could be banished. The consumers no longer would be required to 'earn a living.' The 'handling' of goods by merchants is a useless and wasteful anachronism which could be dispensed with in this modern age. A price evaluation of things based on relative scarcity and desire is entirely unnecessary.

But any departure from ancient Price System orthodoxies in the distribution of goods and services is deemed so heretical by the faithful fanatics of the status quo that they now have the world of mankind braced for a war of annihilation on the mere issue of a very minor difference in the method of distribution under the Price System.

A Forecast of Change

Science applied to all phases of economics would introduce such fundamental change that both communism and private enterprise would seem indistinguishable in contrast to what would follow. They represent only a minor schism within the Price System. Technocracy represents a fundamental change. For that reason, Technocrats cannot take seriously or get excited on a partisan basis over the squabbles between socialist and private enterprise methods of distribution.

Governments, to-date, have been political devices for regulating human beings, primarily in the economic field, and as policing forces for the Price System. Hence, most governmental regula-

tions are concerned with economics in one way or another. Further, such regulations tend to favor the prime chiselers of the system over the consumers. It can be taken for granted that, so long as there are political governments, the consumers will be taxed by those governments and they will have to 'pay through the nose' for the goods and services they receive; graft and political corruption will continue to be the order of the day. The exact form of such governments is secondary to the general principles which pertain to all of them. However, it is to be observed that socialist type governments tend to be least corrupt and fascist-type governments tend to be most corrupt.

Under a technologically organized society, Area governance can readily become a functional control, which would be operated for the long-term benefit of all the people on that Area. A technological governance would displace politics and abolish all political practices. These serve no useful purpose. Functional Control would replace human regulation. Its job would be a controlled operation of the physical facilities of the Area and and equitable distribution of its benefits to the entire population; also, it would safeguard the security and freedom of the individuals. Toil, poverty, and insecurity would cease to be plagues in the society and would cease to harrass and frustrate the individuals.

With science applied to society, human relations would be much different from what they are now. Survival would cease to be a struggle, hence there would be no rat-race competition between persons and groups — with the most ruthless and aggressive getting ahead and with those who are gentle and compassionate being shoved in the ditch. When no man can endanger the survival and economic welfare of another, people can relax their guards and be more companionable with other human beings. Economic rivalry for status will stop being a major preoccupation of the citizens. Social status will become a badge of meritorious achievement, not merely indicate relatively successful maneuvering in a catty game of social climbing. Since one will not be able to gain economic advantage through crime, chiseling, gambling, inheritance, or even through superior achievement, incentive will no longer be a virtue. Instead of the external stimulation of incentive, people's behavior will be motivated by the internal stimulation of initiative. Personal favors cannot be bought or commanded; they will have to be obtained through friendship, trust, and respect.

Science applied to the social order is, today, the most despised heresy of all. But, tomorrow, it will be orthodoxy. We are now in the period of transition. The last remaining stronghold of the Old Order is under assault; and, as in all the other conflicts of the past 400 years, science will emerge the survivor. Social technology is the antidote for the social cancer of the Price System and already it is making its effects felt. Technology is entering the social system through medicine, through production and service functions (employed by smart operators to cut labor costs and to help them gain an advantage over competitors), and through the insidious undermining of the old virtues centered in toil, scarcity, and personal anarchy.

The conflict may be vicious, but it cannot be long. Only science applied to the social order can break through the impasse into which we are heading at full speed. That impasse is the threat of abundance; and abundance is one thing that is insurmountable by any maneuver of the Price System.

All signs point to Technocracy as the next most probable social state for the Continent of North America. 'Technocratic materialism' may be the scornful epithet mouthed by the leaders of the Price System; but, rest assured, it is only the scorn of those who know they face defeat. Those who know the score realize that Technocracy is correct. Hence, they know that Technocracy is inevitable.

How well do you know the score?

—Wilton Ivie

April Agricultural Marketing—One hour of farm labor produces 4 times as much food and fiber as it did in 1919-21. Crop production is 58 per cent higher per acre. Output per breeding animal is 81 per cent greater.

One farm worker produces food for himself and 24 others. It takes 1 acre of healthy forest 20 years to grow the lumber for a 5-room frame house.

A large New York newspaper uses the growth of 6,000 acres of commercial forest for its Sunday edition.

On the average, each man, woman, and child in the United States uses about 400 pounds of paper each year.

There Ought to be a Law

Dear Senator:

I see where they are having trouble over Berlin again, and I have been trying to think up something that would help you and the president out with that problem. I don't know exactly how it came about that we got stuck with half of Berlin, which is tucked away inside of enemy territory. Even a cub scout could have figured out something better than that. But, anyway, we are stuck with the crazy mess, so I guess we have to do something about it. I don't hardly think we should start fighting a big war and kill off millions and millions of people just over our rights in Berlin. By the way, Senator, just what are our rights in Berlin which the president thinks are so important? What has Berlin got that's so wonderful for us to hold onto?

Well, this is what I have figured out. First, you pass a law which will set aside a piece of ground in West Germany about the size of our half of Berlin. Then you move all of our people out of Berlin to this piece of ground and build them a new city. They should bring all their money with them and any other valuables that are worth moving more than 100 miles. Then they would have a brand new city and would be among people who are friendly, and they can ship their supplies in and out without complications. Besides, I think it would be cheaper to build a new city for those who wanted to leave Berlin and become West Germans than to hold onto our rights in the old city. Anyway it would be a whole lot cheaper than having a big war just to cover up a blunder that some general made by getting us in there in the first place. Maybe they should let sergeants write peace treaties instead of generals and admirals.

They are already calling up extra boys to help fight over Berlin and they are getting ready to spend billions of dollars on war equipment and other supplies to send over there. Why not send the Peace Corps over there to build a new city like I say and help move the good Germans out of West Berlin, instead. Then we would know the president meant it when he said he is for peace. Now, it looks like he wants war.

Sincerely yours,
BEETAL BRAYNE

P.S.: The reason I am really concerned about Berlin is because my wife's nephew is one of those who is getting called up, just as he was beginning to get settled in a new home and a good job.

The Private Automobile Is No Answer to Mass Transportation

Glendale News Press, June 2, Washington — The automobile which has strangled streetcars, ferryboats and rail commuter service, now is threatening to strangle itself, a California senator warned Thursday.

Senator Thos. H. Kuchell spoke on the Senate floor in favor of federal aid to big cities to help them solve their mass transportation problems.

Citing Los Angeles and San Francisco, Kuchel called for prompt action. He said the prospect of ever-increasing auto traffic congestion is "truly frightening." He added that the threatened destruction of the big cities is no longer just a local problem.

"The federal government must face up to the probable consequences of metropolitan decline, for much of the nation's economic security rests on the shoulders of the urban areas."

Population growth, highway construction and increased use of the automobile has resulted in "the disappearance of the famed Pacific Electric system, which was the pride of Southern California, the San Francisco Bay ferries and several interurban services in the San Francisco Bay areas," Kuchel said.

In other cities, buses have replaced streetcars and the buses are bogged down in automobile traffic.

(Under political Price System control this problem will only become worse. Only a scientific redesign of our urban centers and Technocracy's proposal for automobiles will work.)

Chart of Growth of

Total Installed

TECHNOLOGICAL POWER

in the United States

1850 - 1960

Sources:

- Statistical Abstract of the United States, 1961, Gov't. Printing Office, Washington, D.C., 1961.
- Historical Statistics of the United States from Colonial Times to 1957, Gov't. Printing Office, Washington, D.C., 1960.

Note: The portion coded thus ▮, at bottom of each column is the industrial-productive heart of America's technological way of life: the electric central stations, communications, railroads, pipelines, farm tractors, mining and industrial power plants, et al.
The balance above coded thus ⁞⁞, is the power in the nation's automobiles, trucks, buses, and motorcycles, etc., in which we travel an average of 5,000 miles per capita per year.

With Canada's paralleling technological way of life, the two nations combined total of 7.67 billion Hp. in 1955 was 75% of the entire world's aggregate mechanical-electrical installed power, including that of the U.S.S.R. and its satellite areas.

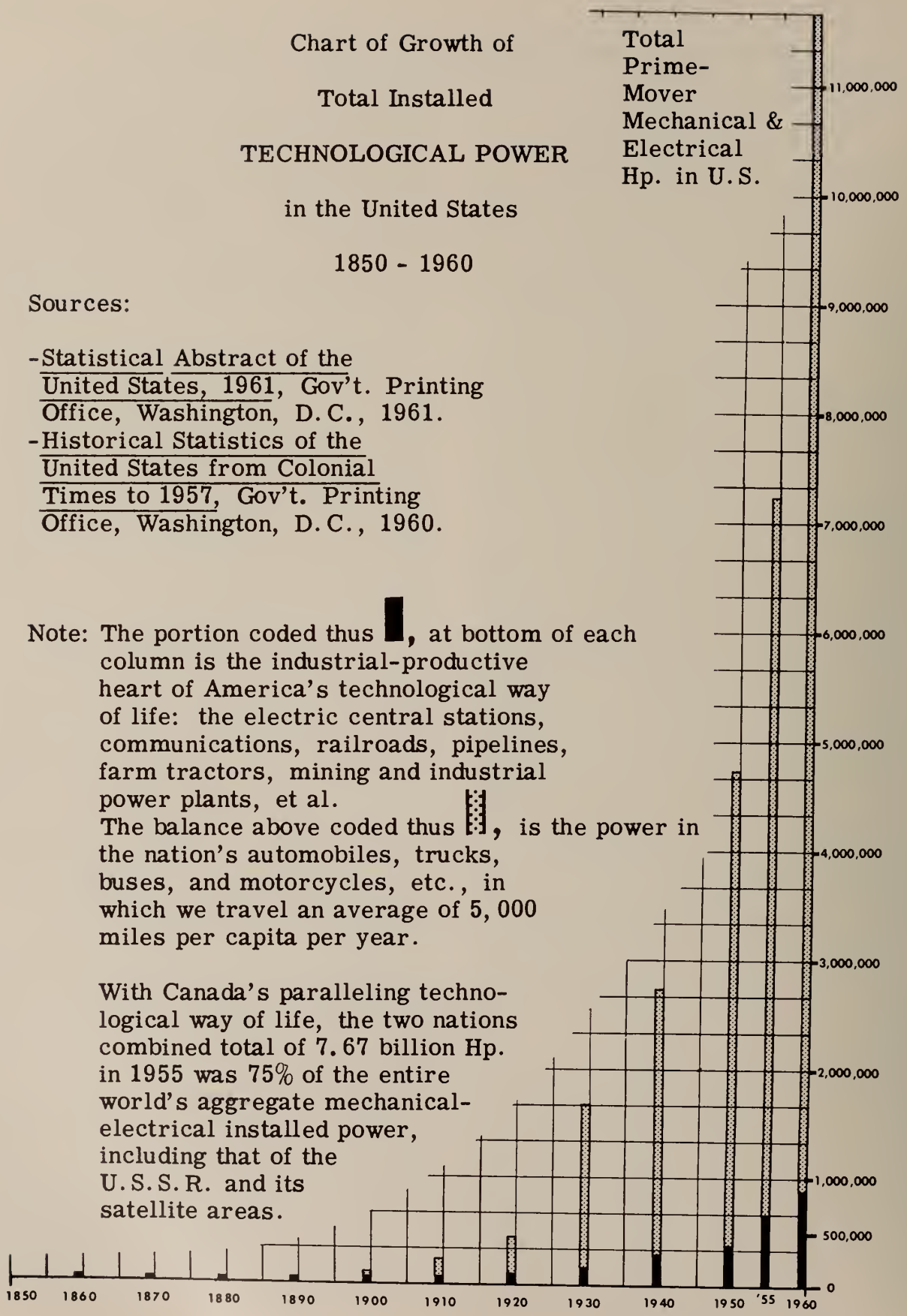

CHART OF GROWTH

The significance of the chart can be appreciated in the light of current events which are making our lives so hectic.

The extremely large growth of the installed horsepower in automobiles, trucks, buses, motorcycles, etc., is making life, particularly in industrial areas, precarious.

The pollution of the air we breathe, the congestion of traffic, traffic accidents, parking problems, upkeep, all these and many more, contribute to the tensions of everyday living for each one of us.

It also contributes, in great measure, to the international tensions. In order to keep this vast array of mobile power moving and to insure the greatest profits, our government is continually backing the moves of our large oil corporations in their efforts to supply the fuel. Anything goes, short of actual atomic war.

Now look at the installed power in industrial use. Small in comparison to that in automotive horsepower, but its effects are even more devastating. Up to the year 1900, its use was relatively small and its effects minimal, but in the next three decades, spurred by the first World War and the recovery period following, the impact was so great that the economy went into a prolonged tailspin, from which we have never recovered. All the so-called reforms which have been instituted since that time have been attempts to alleviate the distress caused by the installation of more and more power in the industrial process. World War Two and the Korean police action accelerated the process. By 1950 the impact was so great that we had repeated recessions from which recovery was never complete, still by 1955 the installed capacity nearly doubled that of 1950, and by 1960 it nearly tripled that of 1950.

The effect of this acceleration is apparent in the growing unemployment in our country. No one can be smug, and no one now employed is safe from the danger of displacement in jobs.

Should this trend continue, and all of us know that it will, we face, as a nation, the most drastic change in our concepts that any nation in history has been called upon to face. Many thoughtful people can see the problem but so far no one outside of Technocracy has projected into the future, the only solution which logic demands.

—Editor

Consumers of Abundance

The advance of science has for many years been undermining the two pillars of our economy —property and work. Each at length has fallen from its place. Property is no longer the primary source of economic power, and ownership no longer establishes the significant, functioning connection between people and the things they consume. Work occupies fewer hours and years in the lives of everyone: what work there is grows less like work every year, and the less the people work, the more their product grows. In the place of work and property, illusions and old habits and compulsions now support the social edifice. Public understanding must eventually overtake this transformation in the relationship of modern man to his physical environment. Fundamental changes in the social order—in man's relationship to man—are therefore in prospect and are already in process.

It is difficult and perhaps dangerous to forecast where these changes may lead. Full employment, for example, now seems to be not only an unattainable but an outmoded objective of economic policy. What takes the places of wages in a workless society? If such a question must be asked, then others follow. Does profit remain a useful standard of accounting in a propertyless society? But these questions are not only too big; they are premature. Before they can even be asked, the scientific revolution that occasions them must be more closely examined.

As the withering of these institutions from the life of society suggests, property and work are artifacts of civilization. In the kinship economies of pre-agricultural societies they have no place whatever or appear only in the faintest analogues. The wampum hoard that confers prestige in one culture becomes the potlatch of another. Hunting

and food-gathering are not work, but adventure, assertion of manhood, magic, and craft.

Property and work make their appearance with the agricultural revolution. They are devices for gathering and impounding the surplus that four families at work upon the land can now produce to support a fifth family off the land. Property is the institution by which the church, the state, and their individual agents assert their control over the land as one of the two primary factors of production. Work is the institution by which they assert their control over the other primary factor of production—the energy of human muscle. The word "work" signifies toil and at the same time the product of toil; it is the measure ("according to his works") of the portion of the product that may be allocated to the unpropertied worker. The two institutions together furnished the rationale for the compulsions necessary to assure the removal of the surplus from the land. Thanks to these arrangements, even fairly primitive agricultural technologies were capable of supporting substantial urban civilizations, as in Mexico.

In the feudal societies identified with agricultural technology, land was the only economically significant property. It was typically inalienable, except by order of the suzerain; it was cherished and maintained from generation to generation, physically occupied by its possessors, who enjoyed all the rights of usufruct as well as the power to exploit. In medieval Europe the land so completely dominated economic life that the taking of interest was synonymous with usury, a crime as well as a sin. It took a religious revolution to establish the practice of selling things for more than they cost and to secure propriety for profit in the worldly virtue of thrift.

Profit, thrift, and the accumulation of capital brought an entirely new kind of property into ascendance in economic affairs. This was the machine. At first the machine had the same immemorial look of permanence as the land. It embodied a high ratio of brute material to design and was built for depreciation over at least one generation of ownership. Through such time periods, ownership of the machine carried the same stability of power and place as ownership of the mine or plantation.

It was not long, however, before the ratio of design to material in the machine began to rise and then reverse. As the machine became ever less substantial, its lifetime grew shorter. Today the economically significant industrial property is not the machine, but the design, and not so much the design as the capacity to innovate design in process and product. This is scarcely property at all, but is rather a capacity inhering in an organization. To have that capacity encumbered by gigantic plant can be hazardous. This is what the steel industry has found in the present technological free-for-all that has brought steel into competition with materials — glass, ceramics, reconstructed wood, plastics, and exotic new metals — that no self-respecting steelmaker ever heard of fifteen years ago. The most profitable manufacturing enterprises are those that show a shrinking ratio of plant to output and a rising ratio of instrumentation to plant. Not only the plant but the product and the very industry in which the company is engaged may be subject to obsolescence. The decisive factor of production is research and development.

As the nature of property, in the sense of the thing that is owned, has changed, so has the nature of the social institution of property. Property was subverted by another social institution, the corporation. With ownership represented by stock certificates, the proprietor ceased to occupy the premises. The right of property vested in the stockholder, as A. A. Berle, Jr., and Gardiner C. Means made clear more than a generation ago in *The Modern Corporation and Private Property*, was reduced to the right to vote for the directors of the corporation (if the stockholder bothers to return the proxy statement) and to claim on earnings (if the directors declare them out in dividends on his class of stock). Even these vestiges of power are delegated today to a third party for the increasing percentage of the voting equities in American industrial enterprise that is held by insurance companies, pension funds, and mutual investment companies.

The puissance in research and development that determines the fortunes of a corporate enterprise is commonly valued at one dollar on the balance sheet. This accounting fiction hypothecates the talents of the men who make up the organization, and the common-stock certificate is a thrice-removed share in that hypothecation. Under the circumstances, it is hard to see how the stockholder could be vested with a larger claim. The instrumentalities of ownership have become as insubstantial as the decisive factor of production itself.

Against this statement of the terms on which the present owners of the American industrial system hold their property, it may be argued that the really giant new fortunes are being made in the old-fashioned kind of property; that is, land and the mineral riches underneath it. But even the discovery of mineral resources has moved into the realm of invention. It is *par excellence* a yield on instrumentation, implemented by an equally intangible talent for politics. As a result, most of the prospecting is carried on by large corporations, and ownership stands at the same remove as in other activities of the industrial system.

With the emergence of two to five corporations in control of assets and sales in all but a few realms of industrial activity, economic power has become highly concentrated in our society. But it is no longer attached to property. The power is vested in self-perpetuating managements. How they derive their legitimacy is a question that troubles a great many people, including those who exercise the power as well as those who are critical of the power-holders.

Edward S. Mason, of the Harvard economics faculty, has astutely asked what difference, if any, this transfer of power has made. It is true that the profit margin — the yield of ownership — remains the ruling discipline of corporate management. And it is also true that operation under this discipline chronically fails to realize the full potential of industrial technology. That failure is the measure of the present business recession: with the gross national product holding steady at an all-time high, fully one third of the steel plant and comparable percentages of capacity in other industries lie idle. As the self-appointed management contemplates the troubling question of the legitimacy of its power, it must also face increasingly insistent questions about its stewardship of power.

The same transformation of the nature of property is to be seen again in the relationship of the owner to property as usufruct. There are more home-owners today in the United States than ever before in this century, more than 60 per cent of the occupiers of dwelling places compared with less than 50 per cent in 1900. But whereas 30 per cent of the homes were mortgaged to 40 per cent of their aggregate value in 1900, more than 60 per cent are mortgaged to more than half their aggregate value today. The builders and bankers of the new suburbs will tell you that the ownership of one out of six homes there turns over every year. Plainly, the so-called home-owner is buying not a home but a housing service, much as he buys transportation, not a car, from the auto industry. His equity in these two utilities rarely controls before he turns in the old house or car for the new model. By the same token, the total installment debt represents, from one year to the next, by far the major property interest in all of the other consumer durable goods in use in the country. The householder is correct in regarding these transactions as the purchase of a service rather than property. For the objects themselves are self-consuming, designed for depreciation to desuetude in 1,000 hours of service.

In sum, the typical American consumer owns no property in the classical meaning of the term. Out of current income he pays for services currently rendered. Through income set aside in social security taxes and in pension and insurance funds, he reserves a claim on services to be rendered in the future.

Mention of the social security now provided for the overwhelming number of United States citizens brings this discussion to the topic of work. Social security is one of the devices evolved in the recent history of our industrial economy to help solve the problem of "distribution." This, as is well known, is the last frontier of economics. Viewed from the vantage of the economy as a whole, it is the problem of finding people qualified to consume the increasing abundance of goods produced by a declining number of workers. From the point of view of the individual citizen, it is the problem of finding work in a shrinking labor market in order to qualify as a consumer of that abundance. Thus, as we shall see, the primary function of work in our economy today is to secure not the production but the distribution of goods. This is clearly a different situation from that which prevailed in the valleys of the Tigris and Euphrates 7,000 years ago, when the surplus had to be extracted from scarcity by coercion.

Modern industrial technology produces a vast material surplus of goods, many times greater than the need of the workers engaged in producing it. That surplus goes begging for consumers because technology has subverted the social institution of work. The subversion of work began, of course, with the displacement of the biologically generated energy of human muscle by the mechanically generated energy of steam engines. The reciprocal steam engine gave way after little more than half a century to the steam turbine, the gen-

erator of electrical energy in the huge quantities that are measured in kilowatts. Studies conducted many years ago, when muscles were yielding a day's work to steam, showed that one man can put out about 48 kilowatt-hours in useful work in a year. On that basis, the 750 billion kilowatt-hours of electricity generated in the United States puts the equivalent of eighty-five slaves at the disposal of each man, woman and child in the population.

But this is an old story. The new story is the disemployment of the human nervous system. In industrial production the function of the human worker has been to set the tool, start up the machine, supervise its performance, correct its error, and keep its parts in working order. The machine has been doing all the work, including work that exceeds human physical capacity. But, for lack of a nervous system, it has had to depend upon human beings to regulate its operations.

The robot, or artificial nervous system, is the steam engine of the present phase of the industrial revolution. Unlike the steam engine, it does not announce its presence by huffing and puffing, and it has no easily recognized anatomical structure. But it does have a single underlying principle, which is as clear-cut and universal as the idea of converting heat into mechanical energy. This essential idea is known to engineers as feedback.

Feedback is the principle that underlies all self-regulating systems, including living organisms. The nearest and simplest example of feedback in action is the household thermostat: A mechanical sense organ absorbs a little of the heat generated by the household heating plant and thereby makes a measurement of its output. This small fraction of the output is fed back in the form of a signal to correct the input of fuel to the heating unit. By this feeding-back of output to input, the household heating plant is made to regulate itself.

Now, the principle of converting heat to mechanical energy is embodied in about half a dozen economically important heat engines — including the steam turbine, the internal combustion engine, the gas turbine, and the rocket engine. The feedback control systems in our economy, on the other hand, appear in a host of species and varities — electrical, electronic, pneumatic, hydraulic, mechanical — and in such diversity of design and appearance that they have only the essential feedback principle in common.

An accurate census of these robots has not been made. But the evidence is strong that they now outnumber the human workers employed in industry. Our entire energy economy — from the steam plant out across the high-tension lines to the rotating machinery of industry — is now subject to automatic control. The new technology of atomic energy is critically dependent upon automatic control; dozens of feedback circuits in the depths of a nuclear reactor control the dreadful flux of atomic particles in which no living things could survive. Our petroleum refineries and almost all of our chemical process plants are today so highly robotized that their entire operations are controlled by one or two human operators stationed at the central push-button control panel.

It is only a few steps from here to the fully automatic factory. In the petroleum industry, such a factory would make use of an instrument — such as the nuclear resonance spectrometer, which has only recently graduated from the laboratory — to analyze the output stream of a refinery. The spectrometer would feed back its reading to a mechanical computer, one of the "giant brain" variety. These machines are already equal to doing the work of the human operator at the control panel; they need merely to be equipped with instructions covering all possible contingencies in the operation of the plant. Comparing the spectrometer report on the output of the refinery with the instructions stored in its memory, the computer would check and correct the performance of the robot valves at all points on the process stream. In fact, the first full-scale refineries incorporating the principal elements of the self-regulating robot factory are now "on stream."

Obviously, the purpose in designing the automatic petroleum refinery is not to replace the one or two human operators who still remain on the payroll. This was the naive idea of a Middle Eastern petroleum prince for whom an American oil company was building a refinery not long ago. Out of consideration for the under-employed *fellaheen* who were to squat in the sand outside the refinery fence, he asked whether jobs might not be created by disengaging the robots from the valves. The engineers took him seriously enough to re-examine the entire control system. They had to conclude that no team of human beings could be trained and coordinated to do its work.

So, also, the dial telephone, with the ramifications of direct long-distance and direct inward dialing, is designed not to save the wages of human female telephone operators, but to make the operation of the modern telephone system possible.

The heart of that system is not the dial on the telephone but a computer in the central station known in the telephone company as the "line marker." Its self-regulating internal circuitry is so complex that its designers cannot tell at any given moment just which elements in it are performing the work at hand. The American Telephone and Telegraph Company estimates that, at the present rate of traffic, it would have to employ all of the women in the labor force, plus 20 per cent more, to do the work of its line markers. The task of coordinating the output of that many human nervous systems in a single telephone system is quite impracticable.

To engage the robot in functions of this kind takes some doing. The control system must be furnished with receptor organs, like the spectrometer or the dial on the telephone, to supply it with inputs from the world outside. And it must be linked with the world on its output side by means of effector organs, the hands that carry out its instructions. These may take the form of the electrical and pneumatic motors that drive the valves on a refinery or the relays that close connections in the telephone system.

Since the computer's function is to handle information, the easiest way to hook it up to the world outside it is by typewriter. Equipped with typewriters, it becomes a white-collar worker.

Thus far the impact of the automatic control revolution upon the industrial payroll has been felt most acutely by the production worker. Until about twenty-five years ago, the ranks of skilled and semi-skilled factory hands were the growing element in the labor force, absorbing the inward migration from farm to city. In the last ten years, however, as the index of manufacturing output has climbed from 75 to 110, the number of production workers has hovered around 12,000,000. It is evident that the number is now due to decline. In the electrical industry, for example, production employment shrank by 10 per cent in the six-year period from 1953 to 1959; during that same period production in this industry increased by 20 per cent. Even more striking records have been made by the larger units of the industry. In three years, from 1956 to 1959, the General Electric Company increased its output by 8 per cent and at the same time reduced its production payroll by 25 per cent. Its non-production workers now outnumber those on the factory payroll proper. Corresponding trends are to be observed in other industries. After the last retooling, the auto industry produced more units than ever before, and yet the auto cities of Michigan were rated as distress unemployment areas throughout the year of peak production. Projection of these trends into the future shows factory workers becoming as scarce as farmers toward the end of the century.

Vocal union organizations imbued with the Luddite spirit have made the public uncomfortably aware of these developments in recent years. Less is heard of what must be the already considerable impact of the white-collar computer. This movement has only just begun. Since typewriters furnish all the necessary linkage, it is clear that the liberation of white-collar workers from their routine tasks is due to proceed at a much faster rate. Again it should be emphasized that the object is not labor-saving alone. With a computer to do the job, all the many records kept by a corporation become a deck of punched cards or a length of magnetic tape that serves as the single record for every function from inventory control to the computing of a salesman's bonus. Herbert A. Simon, of the Carnegie Institute of Technology, has pointed out that the computer so programed is not merely a clerk but stands ready to assume a large portion of the functions of middle and top management. As a decision-maker, the computer can subject much larger masses of data to more sophisticated analysis in much shorter periods of time. Not only does it know the theory of linear programing better than most of our highest-paid executives; it can also learn from experience to improve its performance in the managerial function.

From decade to decade, the American economy has adjusted to the subversion of the social institution of work with flexibility and something of the same inventiveness with which it has absorbed the consequences of the subversion of property. One man-hour of work today produces what it took three man-hours to produce sixty years ago. This means that we could be producing the same national product as in 1900 with one third of the 1900 labor force. That would leave 58,000,000 members of the present labor force unemployed. But, of course, the American people have elected to apply their rising productivity to the production of a much larger volume of goods, about six times as much as in 1900. A major part of this vast increase in output is represented by products not dreamed of in 1900. In other words, the workers disemployed by rising productivity in the old industries have been absorbed in new ones to pro-

duce an expanding variety of goods or in entirely new functions created by the flow of abundance.

They could be producing goods in even greater volume if not variety today, but they have chosen to take a substantial portion of the gain in leisure. With the work week shortened from around sixty hours to forty hours, the much larger 1960 labor force is putting in a total number of man-hours that is only 40 per cent larger than that worked by the 1900 labor force. If the sixty-hour work week still prevailed, only 40,000,000 workers would be needed to produce the 1961 national product and some 27,000,000 workers would be unemployed.

This invention—the spreading of the same amount of work over the larger labor force by giving everyone less work to do — constitutes only one of the measures so far evolved to handle the problem of distribution. Moreover, it should be distinguished from the desperate share-the-work measures taken in the Great Depression, because it does not involve sharing the wage.

On the contrary, the portion of the national income going to the labor factor — that is, compensation of employees as against profit, interest, rent, and so on — has risen slowly from 53 to 73 per cent since 1900. Some substantial portion of this shift must be attributed to the decline in the number of proprietors, large and small, especially in agriculture. That the shift also reflects a gain on the problem of distribution becomes clear, however, when it is considered in connection with the way the total income is shared among the income groups. Since 1929 the share of the national income going to the most fortunate fifth of the nation's families has shrunk from 55 to 45 per cent. Almost the entire 10 per cent subtracted from the income of the top fifth has gone to the three middle fifths, improving their relative position by about 25 per cent.

This redistribution of purchasing power is another important factor in reducing the amount of work people do in the course of their lives. It makes it possible for young people to postpone their entrance into the labor market through high-school and even college age, and it takes workers out of the labor market by voluntary retirement at the other end of their careers.

But the shortening of the work week and the working life still leaves untold the real story of how work has been spread in order to secure the spread of purchasing power. If work is defined with any sort of strictness to mean productive work — that is, the extraction of raw materials and the making of consumable goods from them (farming, mining, manufacturing, building, and transportation) — then less than half of the labor force, only 25,000,000 people, are really at work.

The distribution of the abundance they produce is secured in large part by employing people in the task of distribution. This is not to say that the distributors do not serve a valid economic function. But selling and distribution costs commonly mark up the manufacturing cost of durable goods by 250 per cent. The major portion of the profit on the sales price therefore comes from the distribution process. Since gimmickry is thus made to grow by what it feeds upon, the distribution system pays a premium on waste. Its principal economic justification is that it does provide "work" and so increases the number of consumers.

To the 12,000,000 employed in distribution should be added another 12,000,000 who qualify as consumers by virtue of their employment in financial, clerical, and service functions — necessary but again not productive work even as it is formally defined in our national bookkeeping. Another large group of consumers are qualified by their enrollment on government payrolls. Certain members of the community will stoutly deny that these people ever do a day's work. Not counting the armed forces, their number now exceeds 5,500,000. If the figure looks too big, it is because we usually forget local and state governments in these calculations. The figure comes back into scale when we recognize that $132,000,000,000, nearly 30 per cent of the gross national product, turned over in government budgets in 1959. Those expenditures not only set up 5,500,000 consumers for the goods made by those more productively employed; the money also made substantial direct purchases of goods and so generated millions of the jobs in the production sector.

Our roll-call ends with the approximately 2,000,000 household employees and the 2,000,000 or more who are employed in teaching or self-employed in the learned professions. Those whom we have here classified as non-productive workers constituted only 30 per cent of the labor force of 1900; they make up 60 per cent of it today. Compared with the day's work that confronts most of mankind every morning, most American citizens are not engaged in work at all.

Thus, up to the present, the American society has managed to handle the subversion of the institution of work without undue stress upon the system of distribution that has carried over from

the days of scarcity. Work, the illusion of work, and pleasant substitutes for work furnish an expanding population with the purchasing power to consume an even more rapidly expanding volume of production. For most of the past twenty years employment has been "full."

It now appears, however, that the advance of technology has begun to outstrip our capacity for social invention. Before the second World War, in the flux of technological change and the oscillations of the business cycle, the system chronically fell 5 or 10 per cent below full employment and fell as far as 25 per cent below in 1933. It is instructive to compare this experience with the present. During the past several years, despite a steady rise in gross national product, unemployment has been rising. Each wavelet in the now well-damped business cycle has left a larger number of workers high and dry on the beach. Unemployment now approaches 6,000,000, or nearly 10 per cent of the labor force. But this figure seriously understates the gap between the jobs available in the production and distribution of goods in the economy and the number of people who need employment in order to be able to purchase their share of those goods.

That gap has been filled for the past fifteen years by the war economy that has grown up alongside the consumer economy in our country. The rolls of the employed include today the 2,500,000 in the armed forces; they are certainly not employed in the production and distribution of goods. To their numbers should be added the 1,000,000 civilian employees of the Department of Defense, whose principal employment is that of housekeeping and procurement for those in uniform. Finally, we must add the 2,500,000 workers in industry engaged in filling the procurement orders of the military. The total of those unemployed or employed outside the civilian economy thus comes to 12,000,000, close to 20 per cent of the labor force, only 5 per cent below the unemployment peak of 1933 — and this at a time when the gross national product has reached an all-time high.

Wassily Leontief, of Harvard University, has recently adapted his "input-output" technique to permit detailed analysis of the prospective economic consequences of disarmament. Study of his tables indicates that even if the gross national product is maintained at peak levels through the transition period following an agreement to disarm, the civilian economy would very likely fall short of re-employing all of those who would be disemployed by the cut in military expenditure. The same study indicates that by 1965 technological disemployment will, in any case, eliminate about one fifth of the jobs in industry now generated by the procurement of arms (unless progress in the technology of armament continues to generate new starts on new weapons systems). In other industries, in the same period, technological progress promises to reduce employment by an average of close to 10 per cent.

The evidence that full employment is no longer an attainable objective seems to be growing. Of course, the arms budget can be arbitrarily increased, and the size of the armed forces along with it, to offset technological disemployment in the armament industries. But no one really wants to contemplate an indefinite continuation of the arms race. Alternatively, or concurrently, some of the slack can be taken up by a thirty-hour work week, a measure advocated by both presidential candidates as long ago as 1956. After that, the work week could be reduced to twenty-five, then twenty hours — and the inefficiencies inherent in such a short work week would help to create more jobs. At that point the nation will have come really close to being a workless society.

No reasonably predictable rate of growth in the productive sectors of the economy seems equal to overtaking the current rate of technological disemployment. Every step of progress in automatic control reduces the capital investment as well as the employment per unit of output. As the cost of investment goes down, the rate of technological progress must increase and with it disemployment. Even an expanding economy must employ progressively fewer workers in its productive sectors. At some point the terminus of full investment will be reached; even at the present level of opulence, the consumer economy shows signs of surfeit. There is, of course, a vast untapped market in the income groups at the bottom third of the economic pyramid. But how are their wants to be implemented with purchasing power when that bottom third already counts the disemployed among its members?

In the long run, larger questions must be asked and answered. If a fraction of the labor force is capable of supplying an abundance of everything the population needs and wants, then why should the rest of the population have to work for a living? Preposterous alternatives come forward: give-away programs on television suggest that

television might be employed to give the abundance away instead of trying to sell it. If production cannot be maintained at a profit under such circumstances, then why should a profit be made? Some other standard of accounting might serve even better to reduce waste and inefficiency.

These questions are put in a deliberately extreme form. They suggest the kind of overturn in the values of our society which is already quaking the ground beneath our feet. The virtues of hard work and profit are rooted in scarcity. They have no relevance to the economics or the sociology of abundance.

Any hard work that a machine can do is better done by a machine; "hard" these days means mostly boring and repetitive, whether in the factory or in the office. But the instinct for workmanship, the need to feel needed, the will to achieve, are deeply felt in every human heart. They are not universally fulfilled by the kind of employment most people find. Full employment in the kind of employment that is commonly available, whether blue-collar or white-collar, has been plainly outmoded by technology. The liberation of people from tasks unworthy of human capacity should free that capacity for a host of activities now neglected in our civilization: teaching and learning, fundamental scientific investigation, the performing arts and the graphic arts, letters, the crafts, politics, and social service. Characteristically these activities involve the interaction of people with people rather than with things. They are admittedly not productive activities; nor are they profitable in the strict sense. But they are highly rewarding to the individuals involved and add greatly to the wealth of the nation. There is no question that our population numbers increasing millions of people qualified for such functions; our institutions of higher learning will have an enrollment of 6,000,000 before the decade is out. The nation's principal economic problem has become that of certifying its citizens as consumers of the abundance available to sustain them in tasks worthy of their time.

What disturbs the scarcity economist, of course, is that such certification is likely to be provided by the public payroll. It must be recognized, however, that these activities — along with urban rapid transit, the enhancement and conservation of natural resources, public works, the best kind of medicine, the operation of museums, and so on — have never been or can no longer be conducted at a profit. Most of these activities and institutions are now short-changed. With abundance to support the expanding portion of the population engaged in them, we may anticipate that they will assume a higher priority in our civilization.

In any event, so long as the institutions of work and property preside over our economic activities, it is clear that the distribution of material goods will be achieved as it has been in the past, by expansion of the "non-productive" payroll in both the public and the private sectors of the economy. The "peace corps" and the revival of the conservation corps proposed by the Kennedy administration are the latest steps in this direction. There is plenty of need, if not demand, for labor of this kind. A really adequate program of assistance to the under-developed countries might engage large numbers of disemployed factory workers in teaching their skills to people now entering on their industrial revolution. For some time to come, we can be sure, the real work that remains to be done in the world will stave off the specter of universal leisure.

As for profit, considerations other than profit are already being pressed upon the great corporations by society through governmental regulatory agencies. The self-perpetuating management is understandably wary of such invasion of its prerogatives. In the present ascendance of its reputation, however, it should be more concerned about its performance than its prerogatives. What is most to be asked of the corporate enterprise system is the vigorous promotion of technological progress. This, in fact, is the primary purpose served by profit in the industrial system today; as a kind of involuntary savings, extracted beforehand from the thriftless consumer, retained corporate earnings have furnished the principal capital for industrial expansion throughout the past fifty years. In the future, the "economic republic" of A. A. Berle envisions the insistent intrusion of the public interest in the councils of the private governments that operate our economy, especially when it comes to the deployment of investment funds.

Our society is probably closer to being propertyless than workless today. But the rate of technological progress is speeding up. It appears now to be moving faster than even the responsive and resilient American social order can evolve. Some of the changes may have to come in quantum jumps. For these we need economic and political leadership whose perception and judgment are not compromised by commitments to the past.

A Comment on Preceding Article

On July 4, 1961, Arnold Toynbee, the renowned British historian, issued through the London Observer Service a press release on "A July Question for the U. S.:' Where Will the Coming Social Revolution Stop?' " At approximately the same time, Mr. Gerard Piel, publisher of the Scientific American magazine, contributed an article to the Nation magazine entitled, "The End of Toil," and a much longer article to the Fund for the Republic, Inc., entitled, "Consumers of Abundance." In these articles and others now extant, the writers are recognizing that the conflict between the technological complex in United States and the social system is becoming daily more critical. They have also reached similar conclusions long ago arrived at by Technocracy: namely, that the advance in the technological complex of United States can produce an ever-increasing gross national product and an ever-greater abundance with less and less employment and less and less man-hours. This leads inevitably in the very near future to that unique situation outlined so many times by Technocracy: namely, that a minority of the healthy, able-bodied working force of United States will be able to produce and distribute the physical abundance produced by the technological complex, and that the majority can no longer be employed or engaged for wages or salaries in that production and distribution.

In the United States and Canada, the national technological complex is radical and revolutionary in its accelerating advance while our social system is conservative, reactionary and endowed with all the obsolescence accumulated over the long background of a decadent Tory past. It is interesting to note that various writers have at last come forward admitting Technocracy's premises, forced by the march of events, of course. They are beating the drums and sounding the alarm, but they stop short of any realization socially and politically of where their reasoning will take them. This is a far, far cry from the preachings of the socialists and communists, whose political propaganda calls for the expropriation of the so-called capitalist classes and the elevation of the worker into a new "Fourth Estate."

In the United States, there are 4,500,000 concerns conducting the business enterprise of our national economy. They are composed of corporations, associations, partnerships and individuals but, of this great number, only eight-tenths of one per cent, or 36,551 to be exact, have one hundred or more employees. As the Statistical Abstract of 1960 reports, the total horsepower of prime movers in the technological complex of United States is 11,370,000,000. Of this huge amount, 10,700,000,000 horsepower is in automotive vehicles, leaving only 670 million horsepower, or 5.9 percent of the total, in manufacturing, central stations, railroads, mining, etc. From this, it is quite obvious that, if the horsepower of the prime movers in industry, manufacturing, etc. (exclusive of automotive vehicles) were doubled, a catacylsmic social revolution would be produced immediately. As wages and costs climb upward, it will compel an ever-greater installation of energy consuming devices, of more horsepower of prime movers and more automation to offset the rising costs of inflationary pressures.

People who speak and write of the end of toil in North America and then stop short of delineating the social consequences of such an occurrence — although they may be sincere — are at the same time indulging in the Madison Avenue technique of raising the bogey of social change in order to create tomorrow's headlines. The elimination of toil in United States and Canada not only means an end to the existing social structure, but also the introduction of something brand new in man's history. It means the liquidation of the worker and at the same time the elimination of the bourgeoisie, for a new society will have to come into being in which neither of them will have any part nor any existence.—HS.

"The End of Til" was reprinted by the Technocracy Digest of August, 1961.

Who Needs Gold?

In 1929 the 'Great Depression' had engulfed the whole world. By 1931 events had forced Great Britain to suspend gold payments as enormous amounts of currency were being withdrawn by foreign interests from the Bank of England. As economic conditions worsened, by 1934 every important country in the world followed Great Britain's example by abandoning the gold standard. Today the gold standard is gone; and nowhere does gold circulate freely as a basis of currency systems and credit structures. While gold is used as a medium for the settlement of international balances, it has no internal use as a medium of exchange. Once again gold has gained world attention as the pressure of events points out the weakness and inoperative effect of monetary measures in dealing with the ever-growing technological production of commodities throughout the world. This could well be the beginning of the end of the use of gold in international transactions, and the complete deterioration of the monetary structure in the United States.

In 1934 the 'New Deal' administration, under the leadership of Franklin Delano Roosevelt, took the United States off the gold standard, and increased the price of gold from about $20 to $35 an ounce. By this act, the 'New Deal' removed an imaginary obstacle to the economy that depended upon expansion through the creation of debt for its continuation. The increase in the price of gold allowed foreign nations to buy more American goods at a time when the United States was in a state of economic chaos. While taking the nation off the gold standard permitted the 'New Deal' to 'prime the pump' at a faster rate, the price increase of gold gave the United States only a temporary relief in export markets.

Before and after World War II the United States was a tremendous economic power in the world economic situation. Because of its resource and technological advantage, this country became the chief source of food and of almost all the products of industry. At the time when the world was at war, the central gold reserves of the United States were increasing at a rate of one billion dollars a year. From 1938 to 1948 the gold holdings of the United States increased almost $10 billion. Although a large portion of the world's gold stock found its way into the coffers of the United States and gave this country control of the world economic situation, the gold holdings represented only a small percent of the value of the nation's gross national product. Today it is becoming more and more obvious to the nations of the world that gold as a medium for the settlement of international balances is obsolescent.

The drain upon the gold reserves held by the United States has focused attention on the fact that this country is no longer in a dominating position when it comes to world trade. Because the United States has been operating as a deficit nation in foreign trade, and the 'yankee dollar' has been steadily depreciating at home and on the world market, the financial and economic position of the nation has become precarious.

What has brought about this condition? The most important factor has been the rapid development and use of technology in all parts of the world. Nations, once 'backward' and 'underdeveloped,' have made great strides in the production and processing of their raw materials. And they have become less dependent upon the outside world and those industrial nations that formerly controlled the manufacturing of the finished product. In many items they have become exporters in direct competition with the United States and other industrial or semi-industrial nations. Japan, as an example, can buy this country's raw materials, machine them into finished goods, ship them all the way back to the United States, and still undersell the same goods that are produced here. How is it possible for a have-not nation like Japan to accomplish this feat? Cheap labor- No! Superior and more efficient technology? Yes! These are changing times and the world is changing as a result of technological progress.

This nation should realize that it is no longer the leading technological power in the world today. Our technological development has been mired down under the system of private enterprise. The nation under 'free enterprise' has spent billions of dollars just to maintain obsolete equipment and machines, and billions of dollars for capital goods that are not productive or not necessary to the operation of the social mechanism. The government along with private enterprise has constructed and installed in many foreign countries new plants and equipment that are far more

modern and efficient than exist in the United States. The nation's growth in productivity per man-hour has not increased at the rate of other nations throughout the world. In spite of the fact that the federal government is subsidizing 'big business' with billions of dollars annually, U. S. private enterprise cannot compete on the world market today. It is ironic that other nations in the world are out-competing and beating the 'free enterprise' of the United States at its own game. And private enterprise is losing its happy dumping ground.

No wonder the vested interests in the United States are becoming alarmed over the drain upon the gold reserves and the depreciation of the dollar. The dollar has already declined to the point where it does not command 'confidence' at home or abroad. American made goods, when sold at a price and not given away, cost too much when compared with the same products that are exported by other nations. Even with government subsidies in many forms it has become near impossible for business enterprise to maintain high commodity valuation, the essence for the preservation of the Price System. The production of technological abundance in this country and the growing impact of technological advancement from abroad is forcing the nation to abandon its monetary structure. It has become impossible to operate a high-energy civilization as exists in the United States and on the North American Continent, or to control an economy of abundance, through a medium of exchange or by the creation of debt.

What is the answer to a most serious social problem? The vested interests of the nation want to stop the drain upon the gold reserves and restore the stability of the dollar. But how do they propose to accomplish this magical trick? While there have been many proposals, one of the most drastic has been the demand by financial, business, political and economic experts to reduce foreign aid and make the 'allies' pay their own way with regard to defense and their own internal development. Can one imagine what would happen to the economy here if the expenditures for defense were reduced or there were no place to dump the nation's surpluses? The 'cold war' is the principal export product of the U. S. A., and without it private enterprise would go into involuntary bankruptcy. While there are some advocates for controls of foreign investments and the export of private capital, especially of those businesses that are opening or controlling plants in other nations in direct competition with American made goods, it is unlikely that any political administration will take any action to restrict 'big business' or private enterprise in any of its chiselling exploits. If the United States were to adopt a policy which would limit or restrict imports, the rest of the world would do the same with this nation's exports. The latter proposal has very little merit in bringing about a balance of trade that would be favorable to the United States. Already there are two trade organizations or blocs in Europe that are fighting over the spoils or bidding for that Continent's markets. And the world situation does not look too encouraging because our friends today may become our enemies tomorrow. The outlook does not appear too promising for private enterprise or the monetary structure of the buy and sell system.

The 'new front'-ier for Big Business has stated the crux to the problem of restoring stability to the dollar and the economy is increased productivity. But this can be done only by installing more efficient technology and automating industry and services. The end result would be more disemployment in the nation where there already exist at least 5.5 million unemployed workers. And to increase the productivity would glut an already saturated market, and add to the huge amount of inventories and surpluses. How would it be possible for the Price System to have any stability by increasing the productivity when it cannot sell the products now on hand? The economy is finding it most difficult to operate even at 50 percent of its capacity. The nation's problem is not one of increasing the productivity alone, but one of installing a method of social operation that will distribute our technological abundance.

Let not the American people be deceived into thinking that to restore the gold hoard or to attempt to stabilize the dollar will in any way effect or change our social operation. Gold, debt, money or checks have nothing to do with the operation of the technological complex. A monetary system has no real significance whatsoever in our present high-energy civilization. Once, and for all time, the American people must recognize the fact that the most important thing for providing substance and keeping our social complex going is the flow of energy from one form to another and from one place to another. This nation and this North American Continent can operate and survive without a monetary structure, but our high-energy civilization would disintegrate without the necessary amount of energy conversion to turn the

wheels of the entire physical mechanism. That is why intelligent direction in the consumption of our energy resources is the first and most important requisite of our time.

Instead of applying measures that will aggravate the social problem of the nation and the North American Continent, it has become urgent for this Continent to institute an entirely new approach to the mechanics of operations if we are to meet the ever-changing physical complex of our present technological society. Because of the rapid decadence of the monetary structure in the United States and Canada, and the inability of the Price System to distribute the abundance of goods and services that our technology is capable of producing, it has become imperative for the North American Continent to adopt a new method of social operation that is compatible with our high-energy civilization.

Now is the time for this Continent to go off the monetary system entirely, and replace it with a medium of distribution that is measurable in scientific terms and units[1] before the fictitious creation of debt brings economic chaos or world disaster. We already have on the North American Continent the machines, material and men (trained technical and scientific personnel) necessary for the installation of a new method of social operation without the need or the use of money or debt certificates. By applying science to the social order, and with the use of energy certificates as a medium of distribution, it would be possible for the North American Continent to embark upon the greatest reconstruction program ever known in all history of mankind. At the same time the adoption and implementation of Technocracy's design would make it possible for every North American to enjoy the highest per capita consumption of any continent in the world. It would put an end to the 'makers of waste' just for the sake of perpetuating scarcity and profits, and it would bring about a balanced economy with a minimum expenditure of our energy and material resources.

If we are really concerned about the rapid disintegration of this Continent's social and physical mechanism, we will declare ourselves in favor of the immediate installation of Technocracy's design for Continental operations. Otherwise, the sincerity of wanting to prevent the destruction of our American heritage and the breakdown of our high-energy civilization has a hollow ring.

—Clyde Wilson

[1] For further information: *The Energy Certificate.*

Machine Versus Mankind

"If I make a statement about someone, you may or may not believe it. If I write it in an article, you'll believe it more. In a book it becomes sacrosanct. But if the statement comes out of a computer — Mama Mia! It's like coming from God."

This is what Bernard S. Benson, British-born engineer and president of Benson-Lehner Corp., a Santa Monica, Calif., data processing firm, said to the Society of Technical Writers and Publishers meeting in San Francisco.

Benson said the machine holds the greatest threat to mankind in the future. He said he was deeply worried about the moral implications of his science.

"The machine — a computer to end all computers," he said, "will have all the facts about everyone stored in its infallible memory and will recall the information instantly.

"Where information rests is where power lies, and this concentration of power is catastrophically dangerous."

Benson noted that Americans are already accepting without a struggle a whole series of assaults on their liberty and individuality. Every individual activity is being stored in the memories of giant computers and in the much vaunted spirit of American efficiency it won't be long before the logic of storing them in one central computer will be accepted.

"Your FBI record and your childhood diseases and the attitudes of your parents will be available," he said. The scientist agreed that computers are necessary in the modern world but added that there should be far more serious public discussion to insure that "the new accomplishments will be beneficial to mankind."

"Benson felt that it was not the machines in science that are dangerous in themselves but the uses to which the machines are put. He suggested that of all the billions of dollars America spends on research and development at least 10 per cent should be allocated now to sociological research on how to preserve human freedom in the face of scientific advance that may limit freedom by concentrating power."

(More and more scientists and engineers are showing fear of their own creations. Perhaps some of them may come to the conclusion that the way to control them is in the application of the same method that produced them. They cannot keep their heads buried in the sand.)

Anyway, You'll Die in Comfort

We have taken a long, low look at the new automobile models and have come to the conclusion that the driver of the new car will pay more to kill himself. But he will die in luxury.

If all the horsepower under the streamlined hoods sends him to his death against a telephone pole he will have the satisfaction of knowing that the last few moments of his life were spent in the most attractive automobile ever built.

Most manufacturers continue to disregard pleas from safety groups that frills in design be eliminated and safety features substituted but the public doesn't seem to mind. The average car now challenges death with upswept rear fenders, with rocket engines, and with bodies constructed of streamlined metal that bends under the pressure of one's hand.

The new cars will provide more money for the manufacturers, a comfortable living for the dealer, a thrill for the driver, and more business for the undertaker. They will require the services of more plastic surgeons, doctors skilled in mending fractures, of trained ambulance attendants and nurses. They will keep police highway patrols on their toes. Cemetery diggers will get more work.

Also auto towing services and wreckers will benefit. The junk dealers will find business better than ever, all thanks to the ingenuity of the automobile designers, the business sense of the manufacturers and the skilled phrases of the advertising agencies.

Had they combined their skills to produce a reasonably priced vehicle which would carry human beings from one place to another in comfort and safety they would be forcing their customers to save their own lives. This might develop into an unprofitable and unpopular trend. The idea today is to kill yourself in luxury. If you must bleed to death, do it on highly polished chrome and two-toned slip covers.

From *Consumer Bulletin*, August, 1961. Reprinted by permission from The Suffolk County News, Sayville, L. I., N. Y., and distributed by toll-booth attendants of the Long Island State Park Commission.

A Preview of Chaos

Long Beach Independent, June 14, New York — A massive power failure, the second in less than two years, hit five square miles of mid-Manhattan Tuesday. It started with the evening rush hour and spread chaos from skyscraper peaks to subway depths for 4½ hours on the hottest day of the year.

Emergency repair crews raced the setting sun in an attempt to get service back to normal before dark.

They succeeded first in restoring power on the East Side from 42nd to 77th Streets and between Broadway and Fifth Avenue below Central Park. Elsewhere, in an irregular pattern on the West Side from 43rd to 71st Street, electricity came back at 9:27 p.m.

Before the area flashed back into light, however, steps were taken against dangers that might lurk in blacked-out city streets.

Special police and civil defense squads took up positions in the stricken area, lest lack of street lighting lure mischief-makers and criminals abroad in the dark. Fifty floodlights were rushed to strategic locations.

Over the police teletype to affected precincts clattered the following order:

"Patrol forces shall advise all persons within their areas to remain indoors. Persons entering the area shall be dissuaded from doing so unless absolutely necessary. Storekeepers, where possible, shall be advised to remove valuables from store windows."

When the power failed at 5:03 p.m., the temperature was a steaming 89 degrees, after an afternoon high of 96.

Weather conditions were an almost exact duplicate of Aug. 17, 1959, when more than 500 square blocks on either side of Central Park were blacked out by the worst power failure in the city's history.

(Occurrences of this kind should impress people as to just how dependent we are on the continued functioning of our technological equipment. Had it depended on the political setup in New York to get it running again the city would still be blacked out.)

Fuel Cells, the Power Plants of the Future

The wide publicity given to the development of nuclear power reactors in recent years has concealed the fact that much research is going on into even newer methods of power generation.

Chief among these concepts is the fuel cell — a method of converting chemical energy directly into electrical energy.

An electric automobile would require no transmission. It could have electrical braking, four-wheel drive and differential wheel speeds for safe cornering.

Other applications are heavy power production for electrical furnaces used by the aluminum, glass and steel industries.

"The fuel cell promises to yield more than double the amount of energy from a given amount of fuel as a conventional heat engine. It might reduce fuel demands in a given area initially, but the long-term effect should be to increase demand, since it would undersell other forms of power. Depressed areas of the world will find it a godsend."

The principal advantage of the fuel cell is its extremely high efficiency — up to 80%. By comparison, the efficiency of conventional (thermal) power systems is not over 40%.

Generating units convert energy from falling water, coal, natural gas, oil, and nuclear fuels to electrical energy. This involves a number of mechanical links which reduce the efficiency. In a hydro plant, the water must turn a turbine which turns a generator to convert the energy into electricity. In a thermal plant, a chemical reaction (combustion) produces heat, which is transformed into mechanical energy, which drives a generator to produce electricity. In a nuclear plant, the fission process simply replaces combustion for heat production.

The fuel cell, on the other hand, converts the chemical energy of the fuel directly into electrical energy in a continuous process, without such intermediate links.

The fuel cell operates basically on the same principle as the ordinary flashlight battery, except that the fuel is constantly fed into it instead of being stored there. It will thus never run down as long as fuel and air are available. No recharging is necessary, because the cell, in effect, is continually being recharged as fuel is pumped into it.

The most highly developed fuel cells today use gaseous fuels — hydrogen primarily, or carbon monoxide or a mixture of the two. In a cell using hydrogen as a fuel, the electrical energy taken from the cell is supplied by the chemical energy of the combination of hydrogen and oxygen to form water.

All major U. S. companies in the automobile, aircraft, heavy chemical, battery, electrical and oil industries are now competing in development of fuel cells.

A good deal of research has still to be done before fuel cells will become practical for most applications, and many difficulties must be overcome. But the theoretical advantages of the cells are so great they merit much study.

Excerpts from an article by David Spurgeon, Toronto Globe & Mail, April 27, 1961.

Pathologist of Debt Gives Answer

Wall Street Journal, May 18.

The economy, says Dr. Walter W. Heller, chairman of the Council of Economic Advisers, has turned strongly upward. In fact, he expects the nation's output of goods and services to hit the rate of $525-$530 billion by year's end, compared to just over $500 billion at the end of 1960.

That's an encouraging forecast of the nation's gross national product. What accounts for it? Among other things, Dr. Heller points to the "public sector." By the end of the year, he figures Federal, state and local governments outlays will be running perhaps $9 billion higher than the final quarter of last year.

See how easy it is to "strengthen" the economy. Since the object is to boost the gross national product, you simply boost government spending (which is included in the G.N.P.). And if anybody questions the "progress" achieved by taking from the "private sector" (the people) to give the "public" (government), why, you point to the G.N.P. to prove the trend is up.

(All that is needed is a strong pair of bootstraps and then you can raise yourself to any height.)

A Sorry Outlook

Los Angeles Mirror, April 17, Washington—Secretary of Labor Goldberg says the United States always will have a "certain margin of unemployment."

However, he said on a television program Sunday, the goal should be an unemployment rate no higher than 3%.

Latest Labor Department figures show 6.9% of the total work force idle last month.

Goldberg said it was hard for him to accept the concept that any man who wants work should be denied the opportunity. But, he said, in the United States workers are always changing jobs.

"So," he added, "I suppose — and this is a very reluctant admission for me to make — that we have to live with a certain amount of unemployment."

(This problem will remain with us and grow more acute with the passage of time. The solution lies with a scientific system of production and distribution.)

* * *

As Productivity Increases, Man-Hours Decrease

Cleveland Plain Dealer, May 17—The world's fastest and largest coal pier is under design by Wellman Engineering Co.

The installation at Norfolk, Va., for the Norfolk and Western Railway, will be capable of dumping 126 rail cars of coal into the holds of ships every hour, Wellman reports.

The Cleveland company's contract includes twin high-speed car-dumpers and more than a mile of eight-foot-wide conveyor belts, in addition to the huge 10,000 tons per hour shiploader.

The shiploader, rising to the height of a 17-story building will be able to feed at a rate fast enough to cover a football field with five feet of coal in an hour's time, Wellman reports.

It will need all of this capacity if present plans materialize to build a ship 141 feet in beam, three holds wide, with a capacity of 115,000 tons.

The installation is expected to be completed next year.

* * *

Where Does Your Family Income Stand?

Unless you or your family had an income of $6900 last year you were among the 54 per cent of the nation's families that fell below the average.

The Department of Commerce reports that more than 45 per cent of American families or unattached persons had income of about $6,900. This was a gain of about $300 over the 1959 figures. In real "purchasing power the improvement was "substantially above the post war average rate of growth of 1.9 per cent."

Thirteen out of every 100 families had incomes of less than $2,000, a slight improvement over 1959 when the figure was 14. One-fifth of the nation's families had annual incomes of $2,000 to $4,000 and slightly more than a fifth had incomes of between $4,000 and $6,000.

Seventeen per cent had incomes of between $6,000 and $8,000; eleven per cent between $8,000 and $10,000; eleven per cent between $10,000 and $15,000. (From Federation News, June 10.)

* * *

Forgotten Quotes

"Nepotism is dangerous to the public interest and to our national morality. The appointment of the best qualified people to public office regardless of their relationships, their creed or their color is a cardinal principle of good government." President Kennedy.

President Kennedy: Appointed brother Ted to head fact-finding mission to Africa — with no previous foreign experience. Appointed brother Robert as Attorney General — with no previous legal experience except in Senate. Appointed brother-in-law Sargent Shriver to head Peace Corps — with no previous background in youth activities or foreign policy. Appointed brother-in-law Stephen E. Smith as consultant to Development Loan Fund — with no previous loan experience or foreign service.

From May-June letter to constituents from Edgar W. Heistand, Congressman from 21st District, California.

* * *

Tax Foundation, Inc., of New York, reports the John Q. Public works an hour and 39 minutes each day to pay food bills and two hours and 29 minutes — nearly twice as long — to pay his tax bills.

Some other items:

Item	Work required
Taxes	149 minutes
Rent	85 minutes
Clothing	37 minutes
Transportation	42 minutes
Medical Care	24 minutes
Recreation	20 minutes
Miscellaneous	24 minutes

SOMETHING TO FIGHT FOR

(Continued from inside front cover)

Education should be such that young graduates are ready to take their place in the scheme of things. They have been led to believe that if they prepared and made grades they would automatically be snatched up, and get their chance to do the things they wanted to do in life. Few find the kind of job for which they trained, the result being that they are forced to take some routine, drudgerous job which soon kills their initiative. Even their teachers have been subjected to the same situation; thus we have teachers who majored in English assigned to teach mathematics and vice versa. For the wealthiest nation on earth our school facilities are totally inadequate. We spend more on cigarettes than we do for education. Many of the best teaching talent are lured into other jobs due to lack of monetary incentive and status. Don't you think that the future of this nation through its youth is worth fighting for?

Always we have been imbued with the idea that the world owes every man a chance to make a living. Don't misunderstand, the world doesn't owe any man a living, but a chance to make one for himself. When the first settlers came to America that chance was open to all and most of them took it. Land — free land — was the incentive and in a relatively short time as nations go, the country was settled from coast to coast. The needs of the settlers providing the incentive; those men and women endowed with the initiative supplied ever faster, easier means to conquer the distances and exploit the wealth of natural resources. Technology grew. And as it grew it made possible ever more productive farms and factories. As this nation was evolving from an agrarian culture to an industrial society, the flow lines of commerce and industry seemed always capable of absorbing unlimited quantities of goods so that the increased production was always welcomed and carried no warning of disaster. Technology continued to grow, from better hand tools to attended machines; from attended machines to completely automatic machines; from automatic machines to automated processes and plants electronically controlled. The impact of all of this is just now being felt, as yet principally by the unskilled and uneducated. Now we have what appears to be a permanent body of unemployed which equals about 6.5 per cent of the labor force. If you are one of these or are liable to be one of them in the immediate future, if you knew of a plan which demonstrates that this situation is cruel and unnecessary, don't you think you might summon up enough energy to put up a battle for it?

Why do Americans continue to put up with these conditions? The answer is really quite simple. It is ignorance and inertia mostly. They have lived under this system, which we in Technocracy term a Price System, all of their lives and been constantly propagandized by those who have a financial stake in maintaining their position, that this is the best of all possible systems. Of late, anyone who dares to think that it might be possible to invent or create a system which is more in accord with the conditions which really exist here, is promptly labeled a subversive or a red. But the force of events is demanding that we overcome our inertia and honestly think through our dilemma.

Technocracy is not a "dirty word" despite the efforts of our press who consistently refer to it sneeringly. It is a scientific plan, conceived by Americans, for Americans and for America only. It fits no other area in the world. It deserves study and consideration from all thoughtful, socially conscious Americans.

—L. M. Proctor

Minneapolis Star, May 18 — In a 20,000 square foot plant just off Hwy. 12 in Golden Valley, a machine about the size of a typewriter is ticking away.

The machine makes smaller machines that also tick.

It is an automatic machine for making watches.

The parts fed into the automated watch-maker are so tiny that 5,000 of them scarcely cover the bottom of a 1½-inch by ½-inch bottle.

And the machine is so delicate a particle of dust, the oil from a human hand or the moisture of a human breathing can disrupt its operation.

It completes 60 watch assemblies a minute.

(No trade or skill is safe from the machine, Given enough production to make it feasible, the engineers can build a machine to duplicate the human skill.)

* * *

Santa Ana Register, May 2—Between 40 and 50 ships, loaded with 12 to 15 million bushels of grain, serve as "floating warehouses" in the harbor of Buffalo, N. Y., each winter.

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or associaton either in North America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife — so long as you are a patriotic North American — you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

PAMPHLETS

Introduction to Technocracy	25c	Continentalism—The Mandate of Survival	15c
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Man Hours and Distribution	15c	'There'll Always be an England'	10c
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Science vs. Chaos	10c	America Must Show the Way	15c
		'The Sellout of the Ages'	10c

We have available additional copies of "Stampeding to Disaster," at 25 copies for $1; this timeless article is a good contact piece.

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IT'S LATER THAN YOU THINK

ALMOST THIRTY YEARS AGO, Howard Scott told an audience in New York, and since then has repeated many times at public meetings across the Continent, that: "If the United States, in the conduct of its foreign affairs, continues to be dominated by the policy of business expediency, the day will come in the next three decades when the United States will be compelled to eat international dead crow served with Russian dressing and Tartar sauce." That dish is about to be served, and the American public will have to eat the bitter spoils garnered from foreign continents by America's international salesmen. But if we are wise, we shall turn from defeat abroad to the achievemnt of an American victory on this Continent — the building of the North American Technate.

— SECTION STAMP —